



Herschel Island *Qikiqtaruk*

Territorial Park Management Plan

September, 2006

Acknowledgements

We would like to take this opportunity to thank all of the participants and agencies and their representatives that have been instrumental in helping prepare a new and revised park management plan that will help protect Herschel Island – Qikiqtaruk in the years to come.

Cover photos: Yukon government

Approval Statement

Herschel Island – Qikiqtaruk – Territorial Park Management Plan

The first park management plan for Herschel Island was prepared by a joint committee made up of government and Inuvialuit representatives. It was subsequently approved in 1991.

This new plan was prepared in a similar consultative manner with federal and territorial government agencies, the Inuvialuit Game Council, the Aklavik Hunters and Trappers Committee along with the Wildlife Management Advisory Council (North Slope). Consultation with public and special interest groups also occurred during the review process.

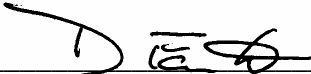
This document addresses the many concerns raised during the review process while taking a broad integrated management approach that applies to the Yukon North Slope and all of the agencies operating in this region.

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On behalf of the Inuvialuit and their representatives the Wildlife Management Advisory Council (North Slope) as represented by Lindsay Staples, Chair of WMAC (NS) recommends the Herschel Island – Qikiqtaruk – Territorial Park Management Plan to the Minister of Environment.

(Letter of recommendation to the Minister of Environment dated April 5, 2006)

Approved on behalf of the Yukon government by Dennis Fentie, Minister of Environment:



Dennis Fentie

April 26, 2006

Date



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April 5, 2006

Dear Minister Fentie,

The Wildlife Management Advisory Council (North Slope) is pleased to recommend the Herschel Island – Qikiqtaruk Territorial Park Management Plan (2006).

The Plan is built on the fundamental principals of the Inuvialuit Final Agreement – conservation of wildlife, habitat and traditional Inuvialuit use. The plan was prepared with an extensive consultation to ensure support from all user groups.

We appreciate the acknowledgement in the plan of the long history of human use at Qikiqtaruk and the commitment to protect heritage resources and allow for traditional use.

We commit to working together to strike an appropriate balance between tourism activities within and adjacent to the park and the conservation of wildlife, habitat and traditional use. As such, we value the importance placed in the plan on supporting research and monitoring of the wildlife and habitat at Qikiqtaruk.

We recognize our role, as well as the role of other agencies and organizations, in the implementation of this plan. Over the past 20 years we have worked closely with park mangers, park rangers, and other organizations with an interest in this unique area. We look forward to continued collaboration on the conservation of this important place on the Yukon North Slope.

Lindsay Staples
WMAC(NS) Chair

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Executive Summary

Herschel Island - Qikiqtaruk Territorial Park, approximately 5 kilometres off the north coast of the Yukon, was established in 1987 as a result of the Inuvialuit Final Agreement. Its main purposes are the conservation of wildlife and habitat, protection of the heritage resources and allowing for traditional use. The island is part of the Yukon North Slope and is subject to a number of agreements concerning management of resources. Continued co-operation with the Inuvialuit, various levels of government and other agencies is very important.

This 116 square kilometre, low-lying, treeless island and its surrounding waters support healthy wildlife populations and large numbers of migratory birds. People have used the area for hunting, shelter and as a meeting place for many centuries. Whalers were the first Europeans to use the island, starting in the 1890s. Significant historic and prehistoric sites remain.

The management plan has been prepared over five years with major consultation and input from many organizations, primarily the Inuvialuit Game Council, the Aklavik Hunters and Trappers Committee, the Aklavik Community Corporation, and the Wildlife Management Advisory Council (North Slope). It outlines the management issues that have arisen over the last 16 years and the plans to address them. Priorities for each summer season's work will be set in the spring.

The main issues stem from increased visitor use and oil and gas activity in the region.

Visitor numbers, arrival and departure dates, and modes of transport will be accurately recorded and their impacts monitored. Summer visitors disembarking in large groups from cruise ships can unintentionally disturb sensitive habitat and wildlife, and, tax the resources of Park staff. Plans to avoid these problems include; continuing to have staff board the ships before passengers disembark, to educate them on how to minimize their impacts; limiting the numbers allowed to disembark at one time; encouraging tour operators to adhere to a suitable code of conduct; and increasing the educational material available to operators and tourists.

Fixed -wing aircraft landings in the Wilderness zone have caused environmental damage and will not be allowed. Beach landings will be minimized and their impacts monitored, and the use of float planes encouraged. Helicopter landings will be allowed, under strict conditions, when needed. Low-level flying over the island will be discouraged.

Inuvialuit use of the area continues, primarily for hunting and fishing. For safety reasons, a summer no-hunting zone has been established around the historic buildings and settlement area.

Since the island provides a natural shelter from the storms of the Beaufort Sea, many ships and other vessels employed by the oil and gas industry work or anchor near the island, causing concern about wildlife disturbance, habitat degradation, pollution, and the

impact on visitor experience. The level of industrial activity and its impacts on the environment will be monitored.

Suitable research and monitoring of the island's wildlife, habitat, environs and weather will be encouraged, and aided as far as feasible. Exposed fossils and artifacts will be collected and appropriately recorded and managed.

Maintenance and housekeeping issues addressed in the plan include building maintenance, safety issues, managing conflicts over use, provision of fresh water, waste disposal, fire protection, nuisance wildlife, gravesite maintenance, etc. The over-riding principle in all matters is to conserve the island's natural and heritage resources, while respecting Inuvialuit rights.

The total cost of achieving the goals and objectives stated in the plan is too great to be borne by any one agency or government alone. The responsibilities for implementation will fall across different agencies and organizations. These responsibilities in turn are limited by serious financial restraints. It must be understood that this plan is not a commitment by government agencies, aboriginal organizations or non-government organizations who support it to expend funds beyond what they have available or beyond their area of jurisdiction and responsibility. Rather it is a challenge to all of those with an interest in the conservation of wildlife, habitat and traditional aboriginal use on the Yukon North Slope to work diligently within their means and to contribute their share towards this end.

1.0 Introduction

1.1 Purpose of the Park Management Plan

The *Parks and Land Certainty Act* requires each Territorial Park to have a management plan. These plans must be prepared in consultation with the public and must reflect the Yukon Government's policies and legislation, as well as the provisions of comprehensive land claim agreements.

This management plan for Herschel Island - Qikiqtaruk Territorial Park provides strategic direction for the next ten years. Since the first plan's completion in 1991, many changes have taken place that were not foreseen, including a rise in the number of visitors, resurgence of the oil and gas sector, impacts on the historic resources, and impacts to the visitor experience. Performance measures are required that more accurately reflect the Park's current and predicted future use while updating the plan to reflect new legislative changes that have occurred over the past ten years.

The plan identifies the need for the development of other strategies or plans such as an operations manual, bear management strategy, interpretive strategy, training and development plan, and historic resources preservation plan that provide detailed prescriptive measure in order to effectively manage the resources. Many of these plans and strategies have already been completed and implemented while others are still being prepared.

Once completed, this plan will allow for the development of the necessary regulatory tools under the new *Parks and Land Certainty Act* that are essential in implementing the overall Park management objectives identified in the Inuvialuit Final Agreement (IFA) and incorporated into this plan. Successful implementation of many of the key actions in this plan will involve working with partners and stakeholders. Annual reporting will be used to assess progress of implementation.

1.2 Park Management in the Context of the Inuvialuit Final Agreement

Herschel Island - Qikiqtaruk Territorial Park was established as a nature preserve in 1987, as a result of the *Western Arctic (Inuvialuit) Claims Settlement Act - The Inuvialuit Final Agreement* (IFA). The IFA identifies the Yukon North Slope area, including Herschel Island, as an area falling under a special conservation regime whose dominant purposes are the conservation of wildlife and habitat and providing for traditional aboriginal use.

In the Inuvialuit Settlement Region (ISR), cooperation is the cornerstone of effective environmental management. Section 14(2) of the IFA states that "in order to achieve effective protection of the ecosystems in the Inuvialuit Settlement Region, there should be an integrated wildlife and land management regime, to be attained through various means, including the coordination of legislative authorities". This cooperation is evident

through a number of conservation plans that exist for the North Slope area. These include the management plan for Ivvavik National Park, the Aklavik Inuvialuit Community Conservation Plan, various plans developed by the Wildlife Management Advisory Council (North Slope) [WMAC (NS)], and work that the Yukon Government has conducted through the Yukon Protected Areas Strategy.

The IFA defines the boundaries of Herschel Island - Qikiqtaruk Territorial Park and sets out conditions for planning and management. The IFA states that the Park will have the following management objectives:

- to protect the wilderness characteristics of the area, maintaining its present undeveloped state to the greatest extent possible; {Section 12.(6)}
- to protect the existing historical, cultural, archaeological and palaeontological resources adjacent to Pauline Cove; {Section 12.(18)}
- to protect and manage the wildlife populations and the wildlife habitat within the area; {Section 12.(6)}
- to provide the Inuvialuit with the opportunity to use the area in support of their traditional lifestyles, while providing any economic opportunities arising out of the operations and management of the Park to the Inuvialuit on a preferred basis. {Section 12.(2, 42, 43, 44)}

An important provision of the IFA, under Sections 12(46) to 12(56), is the establishment of the Wildlife Management Advisory Council (North Slope), which is made up of representatives from the Inuvialuit community, the Yukon government, and the federal government. This council advises on all aspects of park planning management and recommends the park management plan for approval. The council also advises both the federal and Yukon governments on wildlife and habitat management on the Yukon North Slope.

The Yukon Territorial Government, in part through Herschel Island - Qikiqtaruk Territorial Park, is committed to advancing the following three principles of the Inuvialuit Final Agreement:

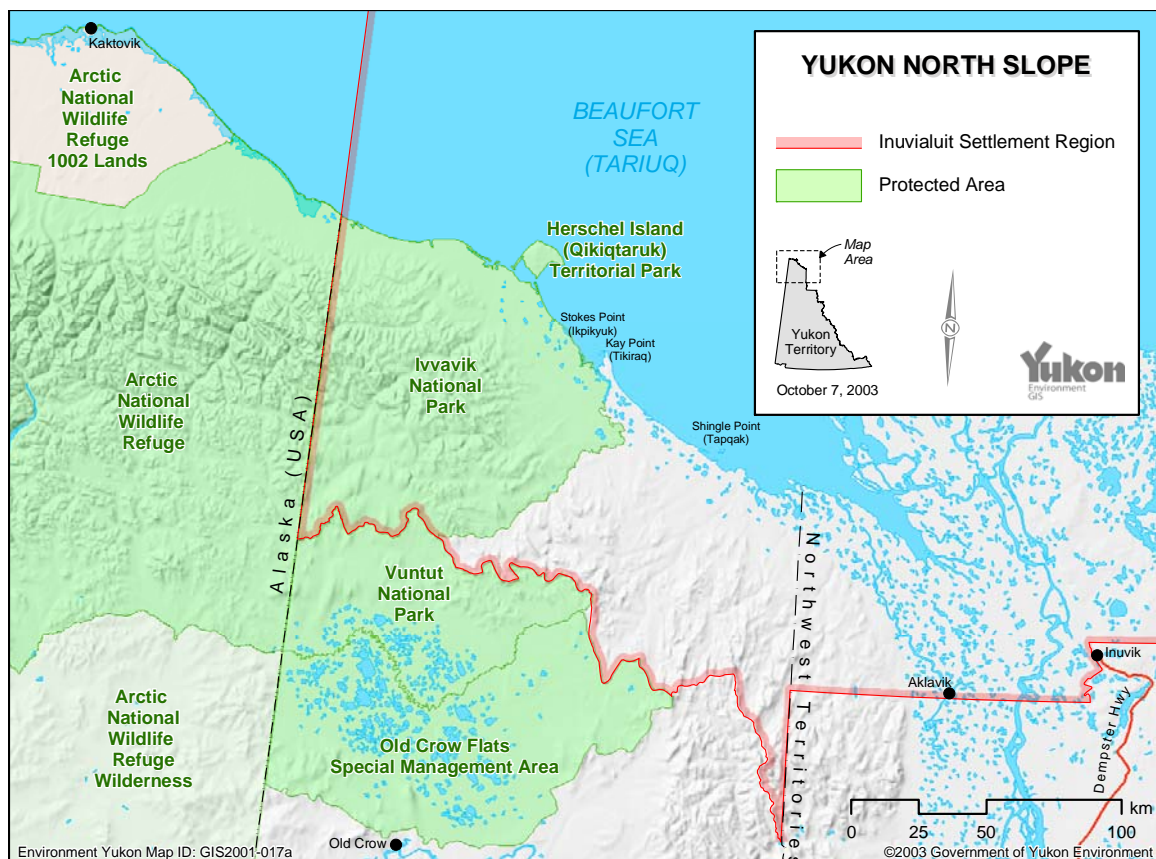
- to preserve Inuvialuit cultural identity and values within a changing northern society
- to enable Inuvialuit to be equal and meaningful participants in the northern and national economy and society; and
- to protect and preserve the Arctic wildlife, environment and biological productivity.

1.3 Park Setting

Herschel Island - Qikiqtaruk forms part of the Yukon Coastal Plain Ecoregion. The island covers an area of approximately 116 square kilometres and has elevations up to 182 metres (596 ft). The majority of the island is in a relatively undisturbed condition with the exception of some communication towers and aids along with a number of heritage sites. The Park includes all of those lands known as Herschel Island in its entirety.

Herschel Island - Qikiqtaruk, the Yukon's largest offshore island, is located approximately five kilometres off the Yukon north coast adjacent to Ivvavik National Park. The island is situated within the Yukon North Slope of the ISR. Inuvik is located 250 kilometres southeast of the island and is the closest community offering full services. Aklavik, 215 kilometres southeast, is home to most of the Inuvialuit who regularly visit the island. Old Crow, the nearest community in the Yukon, is 200 kilometres due south. The Yukon-Alaska border is only 70 kilometres to the west. The adjacent Alaska land is part of the Arctic National Wildlife Refuge (ANWR) which includes the well known 1002 Lands. The nearest community to the island is Kaktovik on the Alaskan coast at 180 kilometres. Access to the island is limited to chartered aircraft, boats in the summer and snowmobile and dog team during the winter months.

FIGURE 1 - REGIONAL SETTING AND THE INUVIALUIT SETTLEMENT REGION (ISR)



1.4 Relationship Between Ivvavik National Park and Herschel Island - Qikiqtaruk Territorial Park

Since the establishment of Herschel Island Territorial Park, there has been a strong connection to Ivvavik National Park. Both Parks were established through the Inuvialuit Final Agreement and thus their management is based on very similar principles and standards. Furthermore, given the close geographical proximity of the two parks and their

similar natural and cultural environment there are many opportunities for staff from the two parks to work together, both at an operational and planning level.

1.5 Park Establishment History

Herschel Island, known locally as Qikiqtaruk (Big Island), has a long history of occupation and use by Inuvialuit and more recently by other groups of people such as late 19th century commercial whalers, the North-West Mounted Police (NWMP), Anglican Missionaries, the Hudson Bay Company, and other traders. Because of its northern location it was also used to assert Canada's sovereignty in the Western Arctic.

Upon ratification of the IFA in 1984, it was agreed that Herschel Island - Qikiqtaruk would be established as a Yukon Territorial Park in accordance with the IFA and its guiding principles. In order to facilitate the creation of the Park, control and administration of lands were transferred to the Yukon Government on January 31, 1985. The island was withdrawn from staking under the *Territorial Lands (Yukon) Act* and OIC 2003/148 under the *Placer Mining Act*. The historic buildings were transferred to the Yukon Government from Parks Canada in 1983. On July 30th 1987, Herschel Island - Qikiqtaruk was established as a Territorial Park with the classification of "Nature Preserve" through Order-In-Council # 1987/148.

In 1972 the Historic Sites and Monuments Board of Canada (HSMBC) recommended commemoration of the site. In 1988 a plaque was erected at the head of Pauline Cove that recognizes: the intercultural contact at Herschel Island, the whaling industry in the Western Arctic, and Canadian sovereignty in the Western Arctic as events of national historic significance.

In support of the Park planning process, extensive research including archaeological, palaeontological, and natural resource inventories were conducted through the 1980s and 90s. This included archival and oral history research and investigations into the physical historic resources. This research helps provide benchmark materials for the future management of the Park and is ongoing in many cases.

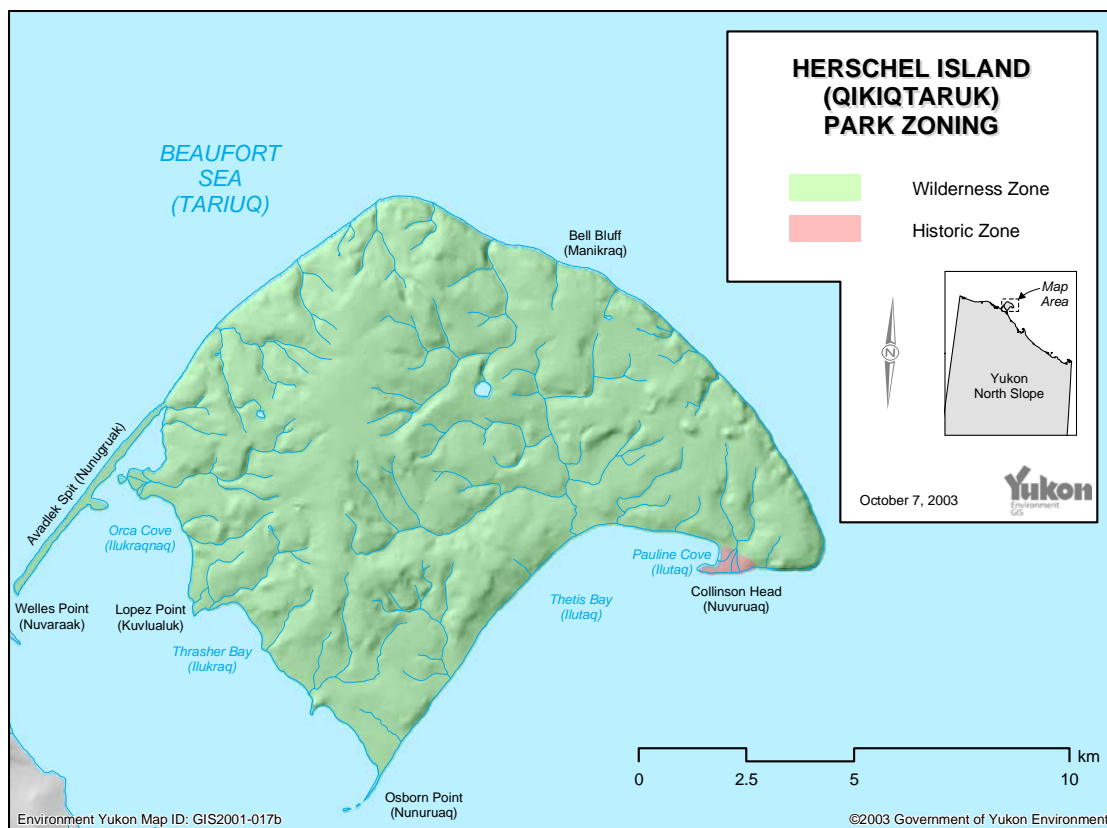
1.6 Park Zoning and Classification

In 1987, Herschel Island - Qikiqtaruk was classified as a Nature Preserve under the *Yukon Parks Act* by Order-in-Council 1987/148 *Parks Act*. In order to accommodate the new *Parks and Land Certainty Act*, the Park has been classified as a "Natural Environment Park". This designation meets the criteria set out in the IFA and is compatible with the original purpose, objectives and intent of the previous Nature Preserve designation. Under the new Act, a "Natural Environment Park" means, "a park established to protect representative or unique landscapes that display ecological characteristics or features of one or more of the Yukon ecoregions". This designation is the most compatible with the Park's use because it allows for traditional aboriginal use while protecting the Park's resources in accordance with the underlying principles of the

IFA. If any inconsistencies or conflicts over aboriginal use of the park occur with regards to the new *Parks and Land Certainty Act* and the IFA, the IFA will prevail.

The IFA sets out the overall management regime and identifies two different regimes based on the National Parks System that will apply to Herschel-Qikiqtaruk. The IFA identified the first area as a wilderness zone and is described as those lands adjacent to Pauline Cove; the park regime on Herschel Island shall be no less stringent than that of a wilderness National Park. Under the Yukon Government park system, a wilderness zone land use designation would meet the intent of the IFA. The second land use zone is a historic zone, and is identified in the IFA as the lands adjacent to Pauline Cove; the historic resources shall be protected in a manner no less stringent than that of the regime of a National Historic Park. These lands immediately adjacent to Pauline Cove extending from the shoreline back to the rise in land will continue to be classed as a historic zone.

FIGURE 2 - PARK ZONING



In addition to the two main zones, additional temporary land use zones will be designated throughout the Park to protect research sites and related research equipment. These small zones will be protected pursuant to the Park regulations whereas the permanent

wilderness and historic zones are established through the *Parks and Land Certainty Act*. These small zones will include such things as vegetation/habitat transects, soil probes, and other similar equipment used in the collection of data. Spot zoning of heritage resources outside of the core historic zone will be added. Two areas are currently being considered for this, Avadlek Spit and Osborne Point.

1.7 Management Planning Process

The first Park management plan was prepared by a team composed of Yukon Government staff and Inuvialuit representatives appointed by the Inuvialuit Game Council (IGC). It was recommended for acceptance by the IGC and the WMAC (NS) to the Yukon Minister of Renewable Resources, and subsequently approved on January 22, 1991.

Developing this current management plan required significant involvement of partners, stakeholders, and individuals with an interest in the park and its future. As such, public consultation played a fundamental role in shaping the revised management plan. This plan was prepared in consultation with the IGC, the Aklavik Hunters and Trappers Committee (AHTC), the Community of Aklavik and the WMAC (NS). Public meetings to gather input and review Park management issues and options were conducted in Aklavik, Inuvik, Dawson City, and Whitehorse. This plan attempts to address many of the concerns and issues that have surfaced over the last 18 years of operating Herschel Island - Qikiqtaruk as a park. A formal review period of every 10 years has been identified in the new *Parks and Land Certainty Act*.

1.8 The Yukon Government's Commitment to the Inuvialuit

The Yukon Government is committed to involving the Inuvialuit and their applicable management agencies in a meaningful manner in the operations and management of Herschel Island - Qikiqtaruk Territorial Park. This includes maintaining a predominant number of Inuvialuit beneficiaries employed as Park staff as required under the IFA. To assist government in meeting this goal, an ongoing Training and Development Plan for staff has been developed and implemented that includes on-the-job training programs. A hiring protocol for Park staff has been developed that outlines government hiring processes and clarifies how the Inuvialuit preferential hiring rights will be applied. It identifies how the Community Corporations and the Inuvialuit Regional Corporations are consulted and involved in the hiring process.

The Hunters and Trappers Committees and the Inuvialuit Game Council will be consulted and informed of wildlife management issues arising out of the Park's management. Park staff will meet with the IGC and the AHTC on a regular basis to ensure that the Inuvialuit are aware of activities relating to the Park's operation. In consideration of the key role that WMAC (NS) plays as an overall management advisory body for the Yukon North Slope, Park staff will meet with the WMAC (NS) on an annual basis to review the operations and management issues surrounding Herschel Island - Qikiqtaruk.

Economic opportunities arising out of the Park's management are limited. However, they will be provided to the Inuvialuit on a preferred basis as indicated in Section 12. (43) of the IFA.

1.9 Principles of Park Management

Maintaining the ecological and historic integrity of Herschel Island while allowing for traditional wildlife harvesting - Qikiqtaruk Territorial Park is the primary principle for managing the Park, and needs to remain the primary consideration when considering any activity. The Yukon Government strives to protect unique natural and cultural resources while optimizing visitor experiences and supporting local social and economic initiatives that are in keeping with the Park's mandate. Herschel Island – Qikiqtaruk Territorial Park is part of a larger ecosystem within which there are complex relationships among all the components. Therefore, a holistic, multi-disciplinary approach – referred to as “ecosystem-based management” – is required to address the complexity of the park ecosystem.

In order to foster and protect the ecological integrity of the area, surrounding industrial development activities need to be fully understood, and addressed where necessary. With conservation of wildlife, habitat, heritage resources and traditional use as the underlying principles for providing a management regime, Herschel Island - Qikiqtaruk has to be considered as a part of the North Slope ecosystem that includes Ivvavik National Park. Furthermore, there are numerous other regional plans that exist such as the Yukon North Slope Wildlife Conservation and Management Plan (YNSWCMP), and the Community Conservation plans that are based on principles of ecological integrity. As such, North Slope conservation initiatives must be considered and incorporated into this plan where appropriate.

The following principles represent an approach that is essential for the maintenance of ecological integrity on Herschel Island.

- Ecosystems are not contained with park boundaries. Thus, management decisions taken for Herschel Island have an impact on adjacent environments as do decisions taken outside of the park have an effect on the ecosystems within the park.
- Ecosystems are composed of a complex set of components, relationships, and processes. In turn, each ecosystem is part of a larger dynamic system.
- Managers adopt an adaptive management strategy that continually monitors and evaluates ecosystem effectiveness and adjusts its strategies accordingly.
- Multi-disciplinary management is used in making decisions. Managers need an understanding of ecological, social, and economic realities to make decisions.
- Humans should be considered an intrinsic part of the ecosystem.
- Cooperative management is the cornerstone of the management of Herschel Island - Qikiqtaruk Territorial Park.
- Management decisions are based on the best available information. Because it is not always possible to delay action until all information is gathered, a cautious approach will be taken for management decisions in such cases.

1.10 Integrated Resource Management and Efficient Use of Resources

There are many different resource agencies and co-management bodies with mandates that apply to both the Park and the ISR. The challenge to managers is to ensure that resources are expended in the most efficient manner possible, in cooperation with the other user groups. Section 12. (2) of the IFA and its reference to conservation can only be realized if the other conservation initiatives are considered, and where appropriate, incorporated into the ongoing management of the Park.

The Inuvialuit Final Agreement lays out a framework for working cooperatively with both the Inuvialuit and the WMAC (NS) - Section 12. (9): "The Wildlife Management Advisory Council established by subsections (46) in addition to its other duties and functions, shall advise the appropriate minister on park planning and management. The Council shall recommend a management plan for the National Park". This section applies to the Herschel Island - Qikiqtaruk Park Management Plan and WMAC (NS) will continue to be the primary point of contact while other more informal reporting structures will be encouraged.

In addition to working closely with the Inuvialuit and WMAC (NS), the Yukon Government is committed to working with Parks Canada and Ivvavik National Park staff at both a technical and operational level. The IFA states that both Parks will be managed in a similar manner. Freely sharing information and available resources in these remote Parks has benefited both parties, and further co-operation will be encouraged to promote consistent management.

Action:

- a. To ensure efficient use of resources, Park staff will review the various conservation-initiated plans and other specific plans where appropriate during Park program development. Some of these plans include the Yukon North Slope Wildlife Conservation and Management Plan (YNSWCMP), the Yukon North Slope Long-term Research and Monitoring Plan (LTRMP), and the Aklavik-Inuvialuit Community Conservation Plan, along with a number of other species-specific plans such as the Co-management Plan for Grizzly Bears.
- b. Park staff will continue to work with Ivvavik Park staff to ensure the efficient use of resources while providing for a higher degree of public safety through the use of increased communications.
- c. The Aklavik Hunters and Trappers Committee and the Aklavik Community Corporation continue to play a key role in the operations and management of the Park and will continue to be consulted on an ongoing basis through annual updates and community meetings.
- d. Parks will continue to consult with WMAC (NS) whose primary role is to provide for joint planning by Inuvialuit and governments. It advises the appropriate ministers on all matters relating to wildlife policy and the management, regulation and administration of wildlife, habitat, and harvesting for the Yukon North Slope, including planning and management of both Ivvavik National Park and Herschel Island - Qikiqtaruk Territorial Park. This consultation is a necessity to encourage

co-operative management and regional integration of the various programs throughout the North Slope. Annual updates on the upcoming operating season and a report on the last season's highlights will be provided to WMAC (NS).

- e. Other innovative funding sources and alternatives for enhancing Park related programs and activities will be considered, including the recommendation to establish a conservation fund under the *Parks and Land Certainty Act* similar to the Conservation Fund set up under the *Yukon Wildlife Act*.

1.11 Park Vision

In 2002, a working group, with representatives from the community of Aklavik, Yukon Territorial Government, Federal Government and WMAC (NS) members drafted the following vision statement for Herschel Island – Qikiqtaruk.

Herschel Island is a unique arctic island, special for its role as a meeting place, as a place of traditional use, and as a place for learning and the maintenance of culture. Its wildlife, wilderness and history should be protected and used sustainably for generations to come.

1.11.1 Key Components of the Park's Vision

There are many components of this vision, which encompasses the core values of Herschel Island - Qikiqtaruk Territorial Park. This vision statement is intended to provide a guide for park planning, management, and operation. To achieve this vision, the Yukon Territorial Government in cooperation with its cooperative management partners will strive for:

- The integrity of ecosystems and cultural resources is protected using our understanding of the cultural and natural uniqueness of the park area.
- There is cooperation with others in a regionally integrated ecosystem management framework.
- Local residents, park visitors, and the Canadian public understand, appreciate, and enjoy park values through interpretation, outreach, learning opportunities, and the provision of a range of appropriate wilderness recreation opportunities.
- The undeveloped wilderness characteristics of the area are maintained to the greatest extent possible.
- There is continued support for the relationship between Inuvialuit and the land.
- Inuvialuit beneficiaries are involved in the operation and management of the park.
- Traditional, local, and scientific knowledge is incorporated into park planning and management.
- The park, through its wilderness and cultural values, plays an important role in the region's heritage tourism activity.
- Park visitors enjoy a range of appropriate recreational activities that are based on experiencing and respecting the park's natural and cultural heritage.

2.0 Managing the Natural Environment

2.1 Description of the Natural Resources on Herschel Island

Climate

Herschel Island - Qikiqtaruk climate is characterized by long cold winters followed by short but intense summers. Strong steady winds are prevalent throughout the year. July is the warmest month with a mean temperature of 7.4°C and a mean daytime high of 12.8°C. February is the coldest month with lows down to -35°C.

Landforms and Soils:

The island was created from sediments that were thrust up by a lobe of Laurentide glacier ice emanating from the Mackenzie Valley and moving westward along the coastal plain approximately 30,000 years ago. There is no bedrock core to the island. The island is formed of a mixture of permanently frozen (permafrost) sediments: unconsolidated, ice rich marine and terrestrial. These materials are easily eroded following any geomorphic disturbance such as coastal wave action or even water run-off from the upland surface of the island. The island is therefore subject to very high rates of surface and coastal erosion due to the ice rich nature of the underlying permafrost. Various forms of periglacial landforms exist on the upland of the island including low centre polygons, unsorted nets and stripes, and palsas, as well as retrogressive thaw slumps and detachment slides. Coastal landforms include beaches, spits, lagoons, and alluvial fans.

Hydrology, Fish and Marine Mammals:

There are no significant lakes or streams on Herschel Island - Qikiqtaruk. However, there is an abundance of intermittent streams that help keep the landscape in an ever-changing state. There are two small shallow lakes in the uplands, but no significant streams flow in or out of them. These ponds are fed simply from ground runoff and provide one of the few freshwater sources for Park operations.

The Beaufort Sea influences the local climatic conditions, and it is largely responsible for the coastal erosion. The near-shore waters provide habitat for bowhead and beluga whales and bearded and ringed seals, along with the seasonal dispersion of arctic char and arctic cisco (herring). In addition to the marine wildlife and fish, the Beaufort Sea provides a source of firewood and building materials for shelter, from logs that have drifted down the nearby Mackenzie River.

Vegetation:

Herschel Island is situated in the Yukon Coastal Plain Ecoregion. The vegetation of this ecoregion is described as *Arctic Tundra*, with continuous ground cover and no trees present.

There are over 200 species of plants on Herschel Island, which occur in a diversity of habitats. Most of the island is comprised of level to gently sloping stable uplands,

vegetated by cottongrass, ground shrubs and wildflowers. Gently to steeply sloping erosional features (such as drainage gullies inland and thaw slumps on the coast) host early successional vegetation communities. Coastal beaches and spits provide habitat for some rare plant species. A few aquatic plants occur in the wetland habitats that occur in association with permafrost features throughout the island.

Cover of grass and lupines has increased dramatically on upland sites on Herschel Island over the past 15 years.

Wildlife:

The Park supports a wide variety of wildlife including barren ground caribou, grizzly bear, muskox, wolverines, cross and arctic fox, and the occasional polar bear. Since the island is surrounded by ice and attached to the mainland from November to July, the larger mammals are transient in nature.

Because of its varied habitats including marshlands, tundra, ponds and beaches, birdlife is extremely abundant and diverse, both in the Park and on the surrounding waters. There are at least 94 recorded bird species that reside in or migrate through the area. A few species such as the snowy owl may reside on Herschel Island - Qikiqtaruk year-round. Near-shore ocean waters in the summer attract thousands of waterfowl including oldsquaw ducks, surf scoters, sea ducks, tundra swans, geese, and loons, which all use the shallow waters as a staging and molting area. The island also serves as a nesting area for many species that may have traveled thousands of kilometres on their annual migrations. The island hosts one of the most northern colonies of black guillemots, which has taken up permanent summer residence in the Anglican Mission House for breeding purposes. Raptor species are common, including snowy owls, marsh and rough-legged hawks, peregrine falcons and jaegers.

2.2 Major Stressors affecting Herschel Island

Herschel Island Territorial Park has adopted an approach to the maintenance of ecological integrity based on assessing the impairment to ecological integrity (stressors) and subsequently directing management decisions towards addressing the stressors. Activities or conditions are considered as stressors if they are known or suspected to be impacting the park environment.

The five main stressors for Herschel Island - Qikiqtaruk Territorial Park are listed in Table 1.

Table 1: Top five stressors affecting Herschel Island - Qikiqtaruk Territorial Park.

Stressor	Status	Description
Climate Change	Accelerated	According to the literature, temperatures in this region appear to be increasing. Evidence of this is an increase in the winds, higher water, more summer storms, and changes to the ice formation (open leads).
Natural Process	Accelerated	Changes to the vegetation in the area along with increases in erosion and landslides. Evidence shows that this is linked to climate change.
Human Use	Stable	Localized impacts have been experienced around the settlement on Herschel Island primarily related to the trampling of vegetation, leaving of human waste, garbage, human/wildlife interactions, and driftwood consumption.
Park Management Practices	Stable	Park’s staff have an impact on the land although staff field operations focus on minimizing impacts.
Oil and Gas Development	Increasing	Increased oil and gas activity in the region has increased the human presence around Herschel Island along with dramatically increasing the potential for negative effects on the natural environment.

2.3 Managing for Ecological Integrity

Ecological integrity can be defined as the unimpaired condition of natural processes and relationships. The maintenance and restoration of ecological integrity, through the protection of natural resources and natural processes, has been identified as the first priority in the management and operation of Herschel Island. This priority will be achieved through balancing the protection of the natural and cultural environment with encouraging traditional use and visitors to enjoy and learn from their experiences on Herschel Island. Maintaining and, where relevant, restoring the ecological integrity of Herschel Island depends on a wide variety of management considerations and actions. It is paramount however that the maintenance and restoration of ecological integrity is done in cooperation with other agencies within the context of the IFA and the *Parks and Land Certainty Act*.

2.4 Research and Monitoring Programs

Much of the work on Herschel Island that is directed towards maintaining and restoring ecological integrity is based on a research and monitoring program. Herschel Island provides an exceptional environment where research and monitoring can be conducted. Researchers in the natural and cultural sciences are working on many projects related to the park. These projects play an important role in the continued maintenance of ecological integrity and addressing the stressors affecting the Park. Researchers will be encouraged to utilize the Yukon North Slope Research Guide, which helps lay out the application process and identifies the different management and co-management bodies operating on the Yukon North Slope.

Research and monitoring of resources has been supported and encouraged since the Park's establishment. Because of the vital role that it plays in identifying trends, problems and changes that need to be addressed or reviewed, it is essential that a more regional approach to data collection and monitoring be taken. This approach will benefit the Yukon North Slope and surrounding area. To realize this, more collaborative relationships with other governments and relevant agencies must be fostered. Park staff need to be involved in the integration of Herschel Island - Qikiqtaruk and other Yukon North Slope data; however, they may not necessarily take the lead role in the collection of the data. Future research programs should strive to include the guiding principles of the LTRMP, and principles within the Arctic Borderlands Ecological Knowledge Coop and the Ecological Monitoring and Assessment Network - North (EMAN - North) which are as follows:

- Coordinate research and monitoring with international and national initiatives;
- Utilize traditional and local knowledge in research and monitoring projects;
- Make use of relevant research conducted elsewhere in answering questions;
- Access and utilize existing data in support of research projects; and
- Employ remote sensing data for research and monitoring.

Action:

- a. Maintain an ecological monitoring program for Herschel Island – Qikiqtaruk Park. The program will include collecting, analyzing, and reporting monitoring information (monitoring activities to be conducted on a long-term basis are listed in Table 2).
- b. Develop or adopt protocols that clearly outline methods for collecting, analyzing, and storing information collected through ecological monitoring activities. The effectiveness of monitoring activities will be reviewed annually.
- c. Researchers on Herschel are required to obtain a Park Permit and a Scientist and Explorers Permit to conduct studies, and will require any other applicable permits identified in the Yukon North Slope Research Guide. The guiding principles arising from the LTRMP should be included in developing conditions in the Park Permit.

- d. Research sites and related equipment where ongoing research is being conducted, may be identified and protected throughout the Park by the creation of additional spot land use zones established pursuant to the Park regulations.
- e. Expand or adapt the ecological monitoring and research program as necessary to meet the objectives of ecosystem management for the park.

2.4.1 Operational Monitoring Plan

While this management plan lays out the broad strategic direction for research and monitoring activities for Herschel Island Territorial Park, there is a need for a more detailed plan that will illustrate the specific research and monitoring activities and rationale for the ecological and cultural resources in the park. This operational monitoring plan will also show the linkages between the research and monitoring activities to the stressors and identify gaps and indicators. All of the following action items within the research and monitoring program (both natural and cultural) will be assessed within the context of the operational monitoring plan. Table 2 summarizes the current ecological monitoring activities.

Action:

- a. To develop an operational monitoring plan for Herschel Island that will lay out the yearly monitoring activities that will take place for the Park. This will be done in cooperation with various partners, and recommended by WMAC (NS), within two years.

2.5 Key Components of the Current Research and Monitoring Program

2.5.1 Wildlife Research and Monitoring

The Inuvialuit have the exclusive right to harvest wildlife within the boundaries of the Park. The Department of Environment, in consultation with other co-management agencies, regulates specific wildlife management issues under the *Yukon Wildlife Act*. The traditional knowledge and experience of the Inuvialuit along with the knowledge of the scientific communities will be incorporated into the management of wildlife in order to achieve overall conservation. Monitoring and recording of wildlife sightings are also helpful in determining the health of an ecosystem and are indicative of changes that may be occurring to the habitat.

Overall management of wildlife is addressed in the IFA, which states that wildlife will be managed cooperatively within the ISR to ensure that wildlife and their habitat are protected and that the harvesting rights of the Inuvialuit are preserved. In response to this need for a cooperative management approach, various conservation initiatives have been undertaken, including:

- the Co-management Plan For Grizzly Bears - In the Inuvialuit Settlement Region, Yukon Territory and Northwest Territories;
- the Porcupine Caribou Herd Management Agreement;
- the Canadian North Slope Muskox Co-Management Plan;
- the Yukon North Slope Wildlife, Conservation and Management Plan, and the Aklavik Inuvialuit Community Conservation Plan.

Goal: Wildlife Research and Monitoring

To use the management plans developed by cooperative management and Inuvialuit organizations to guide the management of wildlife in Herschel Island - Qikiqtaruk Territorial Park.

To understand and maintain wildlife communities representative of Herschel Island and the Yukon North Slope.

To contribute to the Porcupine caribou herd's health and abundance, and that people are able to pursue traditional use of the caribou and their ranges.

Action:

- a. Park staff will strive towards maintaining a high degree of integration of management and cooperation between agencies and the Inuvialuit throughout the ISR.
- b. Park staff will continue to record wildlife sightings and provide the results to the appropriate co-management agencies.
- c. Existing wildlife monitoring programs will be supported, including the Raptor Surveys and the long-term studies of the Black Guillemot nesting colony at the Anglican Mission House.

2.5.2 Climate Research and Monitoring

The park's climate is characterized by long cold winters, short summers, and little precipitation. The Beaufort Sea greatly influences temperature in both summer and winter. Climate change has been recognized by the Yukon Territorial Government as one of the top stressors affecting the park. Monitoring climatic factors on Herschel Island is part of regional, national, and international efforts to document the effects of climate change.

Atmospheric data has been collected by Environment Canada's automated weather station located near Pauline Cove since 1987 but data gaps exist and no weather statistics at all were obtained for 1994 and 1999. Collection of atmospheric data is considered an important aspect of monitoring weather and climate changes and how they impact the features making up the Park. The Park can play a supportive role by offering logistical support to the federal Department of Environment to service the remote weather station. This would help minimize future weather data gaps.

Goal: Climate Change

To support research and monitoring activities which lead to a better understanding on climatic factors on Herschel Island.

Action:

- a. The Park can play a supportive role by offering logistical support to the Department of Environment to service the remote weather station and other agencies involved in work related to climate change (e.g. Geological Survey of Canada). This may help minimize future weather data gaps.

2.5.3 Landscape Change

Coastal erosion and landslides occur at a significant rate on Herschel Island causing the occasional loss of heritage resources, the destruction of habitat, and significant reshaping of the island. While Park management cannot control the causes of erosion such as storms, ocean levels and climatic changes, monitoring erosion will help in reassigning priorities for research and the salvage of archaeological, historic, and palaeontological materials prior to their loss.

Goal: Landscape Change

To research and monitor components of the ecosystem to understand the effects of landscape change on Herschel Island as a whole and the park specifically.

Action:

- a. Future coastal erosion and tide monitoring research projects will be supported to measure any effects of climate change and ocean levels.
- b. A digital map of the Island will be obtained and used as a basis for measuring erosion on the island and the coast that will assist in setting project priorities and allow mitigative measures to protect threatened resources.

2.5.4 Vegetation and Habitat Monitoring

Additional monitoring and research programs need to be implemented to collect data relating to the impacts of visitor use and aircraft landings on vegetation and habitat in the settlement area. Other programs need to be implemented to address gaps of a more regional nature, working with agencies such as governments, organizations and individuals. Numerous monitoring protocols, appropriate to Herschel Island - Qikiqtaruk, for examining visitor impacts on vegetation are available, and could be considered for implementation if they become necessary.

In recent years a surge in the ground cover of one native grass species has been observed on stable upland sites, particularly in the Arctic Willow/Dryas-vetch vegetation community. This grass species was present in the flora of the island in the 1980's in trace

amounts, but is increasing its presence on the island. Monitoring of the vegetation will continue to document these changes.

Goal: Vegetation and Habitat Monitoring

To research and monitor representative vegetation communities and plant species on Herschel Island – Qikiqtaruk Park.

Action:

- a. The ongoing data collection of the existing long-term vegetation monitoring transects and plots will continue to ensure that long-term data is available for future consideration, especially relating to climate changes in the north.
- b. Visitor use and its impacts on vegetation need to be measured in a more meaningful and accurate manner to ensure that the conservation principles can be applied in managing visitors.
- c. The number and location of aircraft landings will be recorded to make informed management decisions in the future about visitor management requirements.
- d. The collection of medicinal plants for individual use by an Inuvialuk will be allowed providing that the collection of plant materials is incidental and does not impact the area in a significant manner.

2.5.5 Human Use

Herschel Island - Qikiqtaruk Territorial Park is currently used by Inuvialuit beneficiaries, visitors, researchers, park staff, film crews, and other government employees. Human activities such as recreation, harvesting, and park operations can impact the park and regional ecosystems. Due to the initial rapid increase in visitation numbers to Herschel specific attention needs to be placed on developing sound management practices to deal with the numbers of people visiting the island and their effects on the ecosystem. A variety of methods for managing human use need to be applied including recording visitor statistics, possibly placing quotas on the number of visitors per day, limiting group sizes, and monitoring campsites.

Goal: Human Use

To record, monitor, and manage human use on Herschel Island so as to reduce impacts on the park and regional ecosystems.

Actions:

- a. Record numbers and the type and location of activities carried out on Herschel Island by visitors, Inuvialuit users, researchers, and parks staff, as part of the ecological monitoring program.
- b. Monitor the impact of visitor use on Herschel Island.
- c. Consider options, if required, of applying visitor use limits to protect the natural and cultural environment.

2.5.5.1 Waste

Three of the stressors which have been identified for Herschel Island are linked to solid waste: park management practices, oil and gas development, and visitation. Solid waste on Herschel Island has the potential to negatively affect park ecosystems. Significant clean-up efforts have resulted in large volumes of waste products being shipped via barge to the appropriate off-site waste facility over the past 18 years. Staff have also participated in coastal clean-up projects that have been initiated by both the government and the industry sector. These efforts have resulted in very little solid waste being left on the island. Other on-site wastes continue to be incinerated where appropriate. Two outhouses have been constructed that incinerate human waste. These two facilities have met the demands of Park staff and visitors to date.

Goal: Waste

To monitor and reduce the effects of solid waste on Herschel Island.

Action:

- a. To record locations of solid waste on Herschel Island as they are found. Immediately assess the need for clean up, and undertake clean up activities whenever possible.
- b. Human waste will continue to be incinerated in the park.
- c. All visitors to the park will be encouraged to adopt a pack in/pack out policy for their solid waste.
- d. Solid waste from park management practices will be kept to a minimum wherever possible with waste materials being removed offsite.

Table 2: Components of the current ecological monitoring program for Herschel Island.

Project	Partners
Vegetation and Habitat	
There are 2 ITEX permanent plots (set up in 1999) to document species composition and biomass in 2 vegetation communities. These plots are measured every 3 to 5 years.	YTG
There are 3 phenology transects (set up in 1999) to record the timing of growth for Cottongrass, Mountain Avens and Arctic Willow. These are monitored every 2 to 3 days all season.	YTG
Continued research documenting a change in frequency of occurrence for <i>Arctagrostis latifolia</i> since 1985. Fieldwork occurs on an opportunistic basis.	YTG
Continue seasonal monitoring of trail use and related vegetation disturbance (first measured in 2003).	YTG
Permafrost and Snow	
Data loggers record soil temperature year-round at 20, 50, 100 and 150 centimeter depths at the 2 permanent vegetation plots (set up in 1999). Measured year-round.	YTG, Agri-food Canada
Permafrost temperatures to 15 meter depth are recorded twice each year (set up in 1999). Plan to install a 50 meter temperature sensor in 2004.	Carleton University

Project	Partners
A snow course with soil temperature data loggers and vegetation plots will be established in 2004 to relate snow depth, permafrost temperature and vegetation cover.	Carleton University
Annual late winter snow accumulation is measured each year near the permanent vegetation plots (set up in 1999)	YTG
Wildlife	
Annual breeding bird surveys have been done since 1992	YTG
Annual Black Guillemot surveys (including nesting success) have been done since 1990.	YTG
Ground-based raptor surveys on the eastern portion of the island were started in 2003.	YTG
Wildlife sightings have been recorded since 1988. Terrain and vegetation information was added to the wildlife sightings in 1999.	YTG
Erosion	
Continued long-term monitoring of erosion and soil slumping.	McGill University
Continued monitoring of coastal erosion on the North Slope.	Geological Survey of Canada
A digital map of the island will be obtained to assist with the monitoring of coastal erosion.	McGill University YTG
Installation of a storm surge monitors in Pauline Cove to record tidal changes. (Installed in 2003)	Parks Canada DFO, YTG
Weather and Climate	
Environment Canada maintains an automatic station on the island. There may be plans to upgrade that station in the near future. These data will be used to relate vegetation changes with climate.	Environment Canada
Larger scale wildlife surveys which include Herschel Island	
Porcupine Caribou annual calving surveys, periodic population census, and occasional telemetry flights.	YTG, Alaskan agencies, CWS
Yukon North Slope muskox population and productivity surveys	YTG, Parks Canada
Planned Yukon North Slope Grizzly Bear population studies	YTG
North American Peregrine Falcon surveys	YTG
Human Use	
Record and monitor the different human uses including traditional Inuvialuit and visitor use.	YTG
Monitor the impacts of human use on the island. Initiated in 2003 and will be ongoing.	YTG
Evaluate the application of applying group size restriction to the cruise ship industry.	YTG
Solid Waste	
Monitor and record solid wastes on the island and provide for clean up.	YTG
Human wastes will continue to be incinerated where appropriate.	YTG
A pack-in-pack-out policy for general waste will be promoted.	YTG Tourism industry
Solid waste from park management practices will be kept to a minimum wherever possible.	YTG

2.6 Environmental Assessment

Environmental assessment legislation that applies to Herschel Island Qikiqtaruk Territorial Park has undergone significant changes as a result of Devolution and implementation of the Development Assessment Process (DAP) flowing from Chapter 12 of the Umbrella Final Agreement. Following the completion of the devolution transfer agreement in April 2003, the Yukon's *Environmental Assessment Act* (EAA) applies to the Yukon North Slope which is mirror legislation to the *Canadian Environmental Assessment Act* (CEAA) which also applies to the North Slope for projects requiring a federal authorization. Effective November 2005, under the DAP framework, the new *Yukon Environmental and Socio-economic Assessment Act* (YESAA) effectively replaces both CEAA and EAA across the Yukon, including the Park.

The Environmental Impact Screening Committee (EISC) will continue to administer its own mandate of screening projects within the ISR. However, under the current and upcoming legislation changes, there are provisions in the YESAA to preclude or minimize the duplication of the two processes.

Generally, the research proposals that are not disruptive to the environment or consumptive in nature will not need to be subject to the formal review process, as is the case now. Following the implementation of the YESAA and subsequent regulation along with the EISC processes, there will continue to be adequate screening measures in place to capture any significant developments that occur within the Park.

Action:

- a. Researchers will have to obtain the appropriate permits including a Park Permit and a Scientist and Explorers permit to conduct research within the Park.
- b. Any development proposal within the Park will be referred to the appropriate legislative body and other regulatory requirements where necessary.

2.7 Data and Information Management

Information on the natural and cultural resources of Herschel Island - Qikiqtaruk Territorial Park is available from a number of sources. These include specific studies conducted by the Yukon Territorial Government and various agencies and groups, monitoring information, local and traditional knowledge, and historical information. This information must be organized and made readily accessible to resource planners and managers so that it can be used effectively and duplication of efforts minimized. Considerable information is still required to supplement existing data so that decisions can be made on the basis of sound knowledge.

Goal: Data Management

To develop and maintain a comprehensive resource information base for Herschel Island - Qikiqtaruk Territorial Park.

Action:

- a. Develop and maintain a sound base of information for Herschel Island, in collaboration with other partners that can be used to direct the protection, maintenance, and presentation of natural and cultural resources in the park.
- b. Herschel Island - Qikiqtaruk Park staff will ensure that a copy of the current information resulting from Park research and monitoring is collected, compiled and maintained as part of the Park Permit conditions.
- c. All research and monitoring information will be collected and made available to interested parties in attempt to realize the guiding principles identified in the Yukon North Slope Long-term Research and Monitoring Plan.
- d. Information and data access protocols will be reviewed during the review of the WMAC (NS) Long-term Research and Monitoring Plan.

3.0 Managing Heritage Resources

3.1 Overview

The cultural heritage of Herschel Island - Qikiqtaruk is evident in the continued Inuvialuit use of the island, the archaeological sites that represent centuries of occupation by northern aboriginal peoples and in the historic buildings, structures, and features developed by the Inuvialuit, commercial whalers, traders, missionaries, and the North-West Mounted Police. Archaeological evidence extends from the pre-contact Thule people through to recent use and occupation. The island has a number of historic buildings, graveyards, and icehouses, dating from the 1890s whaling era through to the 1960s. The island continues to be used for traditional activities by the Inuvialuit.

Archaeological excavations have been undertaken at prehistoric, protohistoric and historic sites in and around Pauline Cove and at Avadlek Spit at the south end of Herschel Island - Qikiqtaruk. These excavations have revealed that cultural resources are generally very well preserved in the island's permafrost and some sites date back more than 1000 years.

Elsewhere, prehistoric and historic artifacts are frequently found along the beaches of Herschel Island - Qikiqtaruk, as they are uncovered by eroding landforms and reworked beach sands. As well, artifacts from a nearby sunken shipwreck are occasionally washed ashore. All of these artifacts contribute significantly to our knowledge and understanding of Herschel Island - Qikiqtaruk's past and are protected under the Yukon's *Historic Resources Act*.

There are four graveyards located near the head of Pauline Cove. Two of these graveyards are Inuvialuit, one contains the graves of two Royal North West Mounted Police members, while the last holds the remains of 25 whalers and a memorial marker for the whaling ship "Triton". In addition, there are an unknown number of isolated gravesites located at the tops of the bluffs around the island. Grave markers were replaced in the whalers' graveyard in 1986 by the Heritage Branch (Heritage Resources Unit) Resources staff while the RCMP have replaced and maintained the markers and fences of the graves of their members. No work, other than recording the physical conditions, has been undertaken on the markers or grave fences in the Inuvialuit graveyards. These graves are situated in an area of active permafrost and are subject to normal thermokarst processes that have caused many of the graves to rise to the surface. Frost heaving within the active layer overlying the permafrost has raised a number of graves to the surface and exposed them to the elements and other natural factors. Considerable concern over what actions need to be taken over this culturally sensitive issue has been expressed since the Park's establishment. Discussions are ongoing with representatives of several Inuvialuit organizations on the desired options for treating the Inuvialuit graveyards as well as isolated graves located elsewhere on the island that are eroding from the bluffs.

Herschel Island - Qikiqtaruk is also one of the three most important areas where Ice Age fossils can be studied in northern Canada, and is the only known Canadian source for the North Slope fauna of the last glaciation. Its fossil fauna is unique in including a diverse representation of both terrestrial and marine mammals. The fossil vertebrates of Herschel Island - Qikiqtaruk are little studied and only sketchy faunal lists have been published in the scientific literature. A few radiocarbon dates have been obtained, and these range up to 40,000 years BP.

To date, fossil vertebrates on Herschel Island - Qikiqtaruk have not been discovered in their original sites, but only along the beaches or, occasionally, melted out of permafrost in the island's interior. Nonetheless, the fossils are of extraordinary importance in gaining insights into the island's ancient past.

A 1987 survey by Heritage Branch identified seven fossil localities on Herschel Island - Qikiqtaruk, including Osborn Point, Simpson Point and Pauline Cove, the northern coast of the island's eastern portion, and two sites inland.

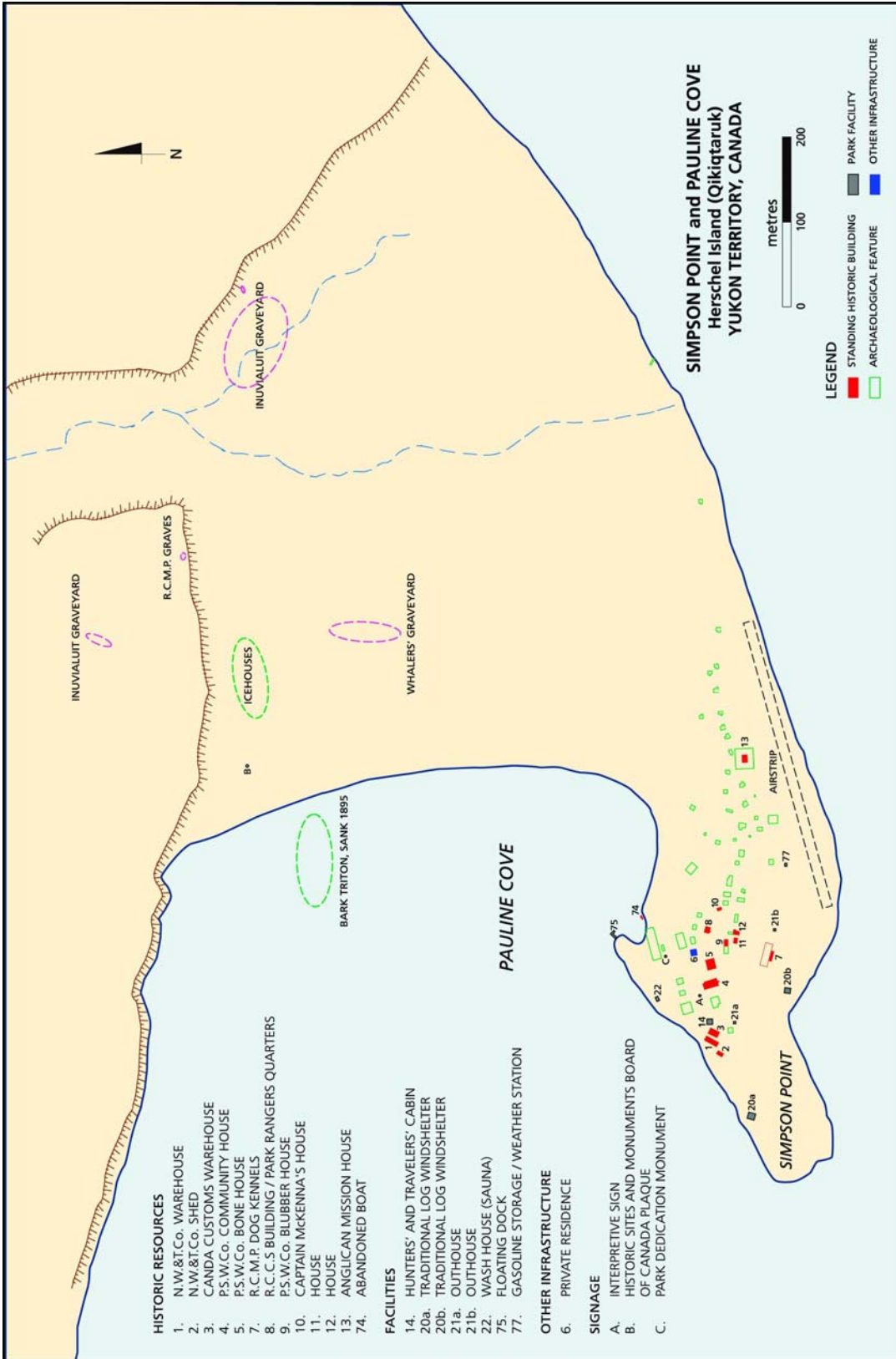
There are a variety of built heritage resources located within the Park. They range from the oldest frame building in the Yukon, built by the Pacific Steam Whaling Co. in 1893, to underground natural freezers, one of which is still in use. In total there are 12 historic structures, half of which are related to the turn of the century commercial whaling industry, with the remainder constructed and used by the police, traders, military, and church. Of the five visible icehouses, four have collapsed while one remains in usable condition. Work on most of the buildings was undertaken in accordance with the Historic Resource Preservation Plan, prepared in 1990, to enable them to be utilized for Park functions or to retain them as features within the landscape. The plan describes acceptable or desired uses for each of the buildings as well as levels of intervention that guided the work that was undertaken as well as ongoing maintenance work. The guiding principle of the Preservation Plan is to conserve the buildings in their existing forms and uses where possible, repairing existing fabric rather than restoring buildings to previous or original appearances.

Building Descriptions:

Building No.1 (Northern Whaling and Trading Co. Warehouse and Store)

This building was constructed in 1926 to serve as a warehouse and store for the Northern Whaling and Trading Co. Shortly after the main portion of the building was finished, an addition was constructed along the west side of the building. Minor repairs were carried out to conserve the building in its existing configuration. Recently the building's addition was dismantled down to its floor framing due to extensive storm damage and undermining. The floor framing has been left in place to assist in the stabilization of the beach along the west side of the building. The building serves as a storage area for Park operations.

FIGURE 3 – FACILITY SITE PLAN



Building No.2 (Northern Whaling and Trading Co. Shed)

This shed was constructed in 1926 by the Northern Whaling and Trading Co. out of material left over from the construction of their main warehouse and materials recovered from the cabin of a ship. The original use of the building is not known. Minor repairs to portions of the building's fabric were carried out to conserve the building. The building is still used for equipment storage.

Building No.3 (Canada Customs Warehouse)

The Northern Whaling and Trading Co. constructed this building in 1926 for use as a bonded warehouse. It continued to be used as a warehouse or storage area by the Mounted Police after the Trading Co. ceased serving the area. Minor repairs, including replacement or strengthening of charred framing members, were carried out in order to conserve the building so that it can remain in use as a storage area for Park equipment and materials.

Building No.4 (Pacific Steam Whaling Co. Community House, R.C.M.P. Detachment HQ)

The Pacific Steam Whaling Co. constructed this building in 1893, making it the oldest frame building in the Yukon. It was initially used as a community building for the officers of the whaling ships that wintered at the island. Following this period it was used successively by the Anglican Mission for housing and church services, the Mounted Police as a barracks and detachment HQ, and finally, it accommodated researchers working under the auspices of the Polar Continental Shelf Project. It has been restored to the last period of continual occupation and is currently used to accommodate the Park Office and as a meeting place for visitors to the Park, and includes a small display area. In addition, there is a kitchen in this building for the use of work crews on the island.

Building No.5 (Pacific Steam Whaling Co. Bone House)

The Pacific Steam Whaling Co. constructed the Bone House in the 1890s for use as a warehouse. The Mounted Police continued to use this building for this purpose until they left the island. Minor repairs have been completed on this building in order to conserve it. Currently the centre bay of the building is used as an open storage area for artifacts that have been found on the island while the side bays are used to store materials and equipment used in the Park.

Building No.7 (Royal Canadian Mounted Police Dog Kennels and Run)

This building was constructed by joining two smaller, existing buildings together and was used by the Police in their dog-breeding program during the 1940s through to the early 60s. The Kennels are not normally accessible to the public as plywood is left over the doors to the building during the operating season. The Dog Run was constructed as a fenced enclosure using driftwood logs as posts with wire mesh fencing between the posts. Much of the fencing is lying on the ground at the present time although the posts still define the Dog Run. Neither the Kennel nor the Run are currently used. They have been stabilized so that they remain as features within the landscape of the Park.

Building No.8 (Royal Canadian Corps of Signals Transmitter Station)

The Royal Canadian Corps of Signals erected a transmitter station at the island in 1930 as part of a communication system that connected much of the Yukon and Northwest Territories to southern Canada. Following the departure of the Corps from Herschel Island - Qikiqtaruk the building was used as housing for the Mounted Police Special Constable. The building was renovated to serve as accommodation for the Park staff including bedrooms, living, and cooking areas.

Building No.9 (Blubber House)

The Pacific Steam Whaling Co. constructed this building in the early 1890s, presumably for storage purposes. The Mounted Police later used the building to prepare dog feed. Minor repairs were carried out to conserve this building and to allow it to accommodate the Park maintenance workshop. No major changes were required for the building's new use.

Building No.10 (Small Shingled Cabin)

Captain McKenna of the Pacific Steam Whaling Co. built this cabin for his own use in 1893. It was constructed utilizing materials left over from the construction of Building No.4. The building underwent a number of changes over the years including the shingling of the exterior and the refinishing of the interior several times. Work undertaken to conserve this building includes: re-roofing, re-shingling of the exterior walls, and replacement of the window sash. Other than repairs to the flooring no work was undertaken on the interior of the building. It is currently used to store personal equipment and gear for the Park staff.

Building No.11 (Small House)

This small building was constructed in the early 1890s and has had additions built on several times since. Not all of the additions to the building currently exist. Repairs were completed to conserve this building so that it can remain as a feature within the landscape of the Park. It is not currently used.

Building No.12 (Small House)

This small building also was constructed in the early 1890s with several additions built on since. Repairs were undertaken to conserve this building so that it can remain as a feature within the landscape of the Park. Currently, the building is used by the private residents for storage purposes.

Building No.13 (Anglican Mission House)

The Anglican Church erected this building in 1916 to serve as the house for the missionary stationed on the island. It also served as the location for religious services when the Anglicans had trouble securing materials from which to build a separate church. Because the building stood empty for so many years it is in very poor condition. Stabilization measures have been undertaken in order for the building to remain as a feature within the landscape of the Park. In addition nesting boxes have been installed on the roof and inside the building for the island's black guillemot colony.

Community House

The Community House is used as a gathering area by Park visitors and contains the Park Office and interpretive displays, posters, maps and materials, while providing a dry and warm area for the visitors. A small library houses books related to the island's natural and cultural resources, and will be added to as new books of interest to staff and visitors are found.

3.2 Protection and Monitoring of Heritage Resources on Herschel Island

A heritage resource is a human work that has been determined to be of historic value or a place that gives evidence of human activity. The objective of the heritage resource management program for Herschel Island is to manage heritage resources in accordance with the principles of value, public benefit, understanding, respect, and integrity. Management of Herschel Island - Qikiqtaruk's heritage resources is designed to protect and interpret palaeontological sites and artifacts, archaeological sites and artifacts, buildings, graveyards, and other historic features from all eras of the island's past. Protection and presentation are fundamental to commemoration since without protection there can be no historic site to be enjoyed, and without presentation there can be no understanding of why the site is historically important. Heritage resource management is based on the ethic that respect for the legacy represented by resources should influence all actions and activities related to those resources. The protection and monitoring program will document, protect, and present the heritage resources of Herschel Island so that the rich and diverse human history is preserved, understood, celebrated, and appreciated.

Similar to the ecological resource monitoring program, this management plan lays out the broad strategic direction for heritage research and monitoring activities for Herschel Island Territorial Park. The operational plan will provide a more detailed overview of the research and monitoring activities. All of the following action items within the research and monitoring program will be assessed within the context of the operational monitoring plan.

3.2.1 Built Heritage Resource Management

Goals: Built Heritage Resources

To monitor and protect the built heritage resources on Herschel Island.

To showcase the built heritage resources on the Island and to use them as resources to educate and create awareness among visitors.

Action:

- a. The condition of built heritage resources will be monitored through yearly inspections. Existing building conditions, general site conditions, and any other problems will be noted and compiled by Heritage Resources Unit staff. This information will then be used to schedule and budget maintenance items for the upcoming year.

- b. Emergency maintenance due to damage through erosion, destruction by animals or other unforeseen actions will be carried out on an as-needed basis in line with available funding levels.
- c. Park staff will inform Heritage Resources Unit of unexpected maintenance required for the historic resources on site. Unexpected maintenance of the historic resources may be performed by Park staff on an as-needed or emergency basis. The Heritage Resources Unit will carry out scheduled building maintenance each year.

3.2.2 Archaeological Resource Management

Goals: Archaeological Resources

To monitor and protect the archaeological resources on Herschel Island.

To showcase the built heritage resources on the Island and to use them as resources to educate and create awareness among visitors.

Action:

- a. Known archaeological sites on Herschel Island - Qikiqtaruk will be inspected annually to monitor changes in their condition and, where necessary, develop mitigation strategies.
- b. Every effort will be made to inform visitors that the collection of artifacts by visitors is not permitted pursuant to the *Historic Resources Act*.
- c. Throughout the visitor season, accidentally discovered artifacts should be either reported or delivered to Park staff. Each year, these artifacts will be catalogued, analyzed and when desirable, incorporated as reproduction or original artifacts into interpretive displays for the Park. Artifacts identified as needing conservation will be forwarded to the Yukon Government Conservation program for treatment. An inventory of artifacts recovered from Herschel Island will be made available to the Inuvialuit. Depending on the nature of the artifacts recovered, they may be either held in storage on Herschel Island or at our storage facility in Whitehorse. According to the *Historic Resources Act* artifacts found on non-settlement lands are owned and managed by the Government of Yukon.

3.2.3 Graveyards

Goal: Graveyard Preservation and Management

To implement and maintain a long-term program for monitoring and protecting the graveyards on Herschel Island.

Action:

- a. Discovered human remains, from eroding burials or surface internments, should be left in situ and reported to the Heritage Resources Unit so mitigation strategies can be developed and implemented.

- b. The headboards in the whalers' graveyard were replaced in 1986 with new ones, many of which are starting to fall over again. They will be re-erected when necessary.
- c. The R.C.M.P. has maintained the gravesites of its members buried on Herschel Island - Qikiqtaruk. It is anticipated that this will continue, although there is no formal agreement to this effect.
- d. Inuvialuit families will be supported as appropriate in their efforts to maintain the gravesites of their relatives found on Herschel Island.

3.2.4 Palaeontological Resource Management

Palaeontological resource surveys of the island should be carried out on a regular basis, to locate new fossil sites and investigate changes to the previously known sites. Regular surveys of the island are considered essential in ensuring that these resources are not lost due to the rapid erosion of many locations.

Goal: Palaeontological Resource Management

To document and collect palaeontological resources to ensure that these resources are not lost.

Action:

- a. Fossils accidentally collected by tourists and other visitors will be curated by the Yukon Palaeontologist for further preservation and classification. There is a real risk of losing these heritage resources, because most known sites are on the beaches where visitors are most likely to go. These fossils are covered under the *Historic Resources Act*, and are the property of the Government. An inventory of artifacts recovered from Herschel Island will be made available to the Inuvialuit
- b. Research on the existing fossils will be carried on actively, with the dual aims of producing information to tell the story of the ancient past, and publication in scientific literature. Continued collecting by the Palaeontologist will be required, to add to the store of scientifically valuable fossils.
- c. Interpretation of the fossils and the geological/palaeontological history of Herschel Island - Qikiqtaruk will be a prominent part of Park displays and programming. The Heritage Resources Unit staff may make reproduction or original fossils available for interpretation in the Park. This will be a particularly valuable project, giving insights to visitors and local residents alike. The interpretation can be especially relevant and compelling if it is based on current research results, and will be changed as new results come along.

The Heritage Resources found on Herschel Island are comprised of a wide variety of objects, features, and sites and include buildings, historic and prehistoric artifacts, archaeological features, gravesites, and palaeontological objects and sites. Each of these types of resources requires monitoring at differing levels. The outline of a monitoring regime for these resources is presented in the following table.

Table 3: Summary of Cultural Resources Monitoring Program

Resource Type	Monitoring Projects
Historic Buildings	Visual inspections of the buildings are undertaken annually. This involves an examination of the building noting among other details; structural condition, wear, water management, aging of building materials and elements, and catastrophic events. These inspections act as the identifier for maintenance work that will have to be scheduled for upcoming years.
Historic Buildings	A more intensive inspection of each building is undertaken at irregular intervals (± 5 years) involving partial disassembly of building elements in order to expose or access normally hidden areas, instrumented measurements of moisture levels, differential movements, levels, and testing, etc.
Archaeological Sites	Known archaeological features are visually inspected annually for evidence of disturbance due to natural events, such as erosion, and for animal or human disturbance.
Graveyards	The four established graveyards located close to the settlement area are visually inspected on an annual basis for evidence of disturbance due to natural or manmade causes.
Artifact Collections	Existing collections are in temperature and humidity controlled storage environments in Whitehorse and Ottawa. These collections consist of materials recovered during archaeological investigations undertaken on the island over the past 40 years.
Artifacts (beach / accidental finds)	Beach finds are inspected and recorded annually. Locational information is recorded and the circumstances of the discovery. Artifacts requiring analysis and curation are sent to Whitehorse. Others are stored on the island.
Artifacts (storage)	Many historic era artifacts are stored in the settlement area of Herschel Island. The artifacts are visually inspected on an annual basis to monitor their condition.
Palaeontological Resources	Palaeontological specimens that are discovered are collected by the Park Rangers on site and passed along to the Yukon Palaeontologist for curation and analysis. An updated inventory of specimens collected will be available to Inuvialuit organizations each year. Research on the existing collection will be carried on to assist with the understanding and interpretation of the Park as well as for publication in the scientific literature.
Interpretative resources	Signage and displays (artifact reproductions, interpretive material such as posters, maps, and historic photographs) are monitored through visual inspections.
Furnishings	Original or period furnishings found in the Community House include: tables, chairs, desks, shelving, cabinets, display units, etc. These items have been conserved and are still in use. They are visually inspected annually for physical wear, discolouration, UV degradation, and physical damage.
Built Resources (below ground – icehouses)	Annual visual inspections of the icehouses are undertaken that look at the following areas among other things: moisture (free water) ingress, desiccation of earth walls, ice build up on all surfaces, evidence of physical wear, condition (health) of vegetation over, erosion of sod / plant cover, conditions of the surrounding ground.

A brief report will be prepared at the end of each year that will summarize work undertaken on the heritage resources during that year and work projected for the following year. The work to be undertaken in the upcoming year will be determined from an analysis of the information collected during the current and previous years monitoring inspections in consideration of available budget.

4.0 Human Use and Services

4.1 Overview

A wide variety of individuals and groups visit and use Herschel Island - Qikiqtaruk both during the operating season of May to September and during the off season. The majority of visitors arrive at the Park by either aircraft or boat during the summer season, while off-season access is usually via snow machine or dog team. Visitors go to Herschel Island to experience the arctic environment, see beautiful landscapes, and to appreciate the cultural environment. Because the park is more than 200 kilometres from the nearest road, access is by chartered aircraft or boat.

4.2 Current Park Users

4.2.1 Inuvialuit Traditional Use

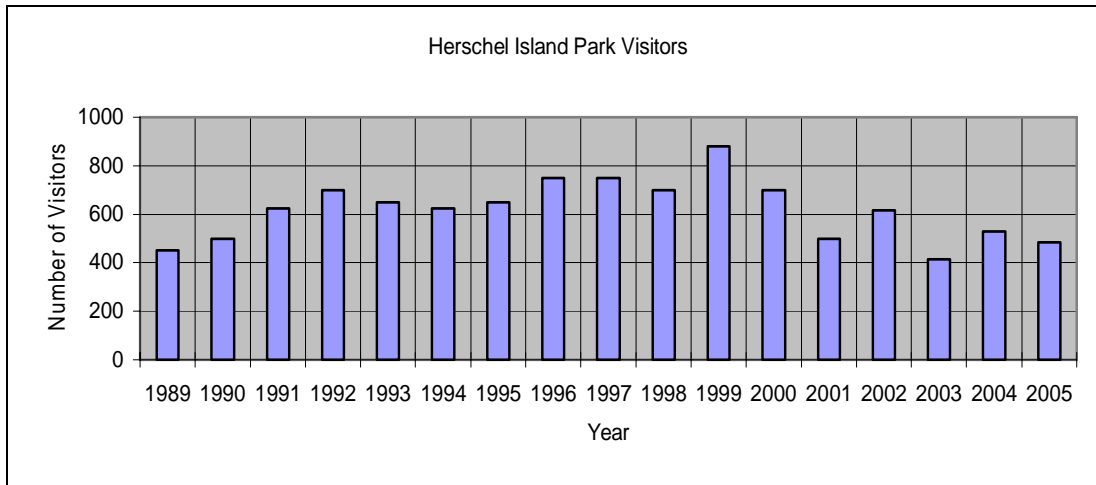
Inuvialuit traditionally use Qikiqtaruk as a place that provides harvesting opportunities and a safe place to wait out the frequent storms while providing a relatively comfortable camp during the summer months. Harvesting Porcupine Caribou within the Park is a common occurrence while char and cisco fishing occurs in the waters adjacent to the settlement. Herschel Island - Qikiqtaruk is often used as a base camp in the spring in support of polar bear hunts, with hunters usually originating out of Aklavik area and traveling by snowmachine. The Inuvialuit use the remaining icehouse for food storage during the summer months. During the park operating season of April to September, Inuvialuit beneficiaries continue to hunt and fish in the area even when tourists are present. Off-season use of the Park is usually associated with Inuvialuit hunters, trappers, and travelers using the island as a stopover or meeting point. A Hunters' and Travelers' Cabin continues to be used as a place that provides warmth and shelter during their stay.

The Inuvialuit Final Agreement establishes the maintenance of traditional use as a priority on the Yukon North Slope which includes Herschel Island (Section 12 (2)).

4.2.2 Visitors

Most visitors arrive during the peak summer season of July and August. These individuals or tour groups require a high level of information and direction on how to best minimize their impacts and avoid disturbing sensitive habitat.

FIGURE 4 – ISLAND VISITOR STATISTICS



The yearly number of visitors to the Park has increased since the Park's establishment. Although there are no accurate numbers there were approximately 150 visitors in 1987. More recently visitor numbers have been in the 400 – 600 range while visitation levels peaked near 900 for one of the years as indicated in figure 3a. It appears that they have stabilized in this range. This increase is proportional to the increase in tourism numbers in the Mackenzie Delta area.

A significant increase in the number of aircraft flights to the Park has occurred. As an example there was approximately 102 flights between April and September of 2000 and the majority of these were with small aircraft such as the Cessna 185 or 206. Most of these flights originated out of Inuvik, with the majority of these visitors arriving when the weather is fair and the island is rich with life, between the middle of July through to mid-August. A higher percentage of visits are day use in nature while much of the traditional Inuvialuit use is for longer stays. Day use is directly related to the cruise ship and aircraft charters while most of the traditional use is accessed by small boat.

Other park users include rafters from the Firth River who made up the largest percentage of visitors during the first few years of Park establishment. However, Herschel Island is no longer used as the main egress point for rafters, who now usually depart from Nuneluk Spit located within Ivvavik National Park. A few groups of tourists have made trips out to the island in the winter or spring by snowmobile, skis or by dog team. Guidelines have been developed that address the use of the Hunters' and Travelers' Cabin and use of the Park during the winter season.

4.2.2.1 Cruise Ship Visitors

Managing cruise ship visitors and ship staff in a safe and effective manner is proving to be one of the biggest challenges to Park managers. Cruise operators generally want to keep the visit as short as possible by having all the visiting staff and visitors depart in one large group. Disembarking visitor numbers range from 60 - 120 depending on the size of the vessel.

Individual park staff have found that a ratio of one staff person to fifteen visitors is about the maximum number that they can manage. In order to meet the needs and expectations of the visitors, while attempting to protect the Park's resources, extra people are recruited on an as needed basis. To

recruit these individuals additional resources in the form of aircraft charters and other associated costs occurs that often results in the program being near or over budget. This has the potential to either reduce the funding level for other projects funded under the IFA Contribution Agreement or may ultimately result in the utilization of A - Base funds to cover the short falls. The additional cost of servicing this industry has been in the range of eight to fifteen thousand dollars per season.

In an attempt to meet the needs of the cruise ship industry and protect the park's resources at the same time it is imperative that additional individuals be on site. In order to cover these significant costs, a user fee should be considered that could be returned to the Park operating budget or other similar conservation fund.

4.2.3 Scientific Research Use

The island is used to support a number of research programs including a remote weather station, communication beacons and towers, and other public safety and environmental monitoring devices. Herschel Island provides an exceptional environment for study. Such types of research and monitoring will be important in the continued maintenance of the park's ecological integrity.

4.3 Managing Human Use

4.3.1 Managing Traditional Use

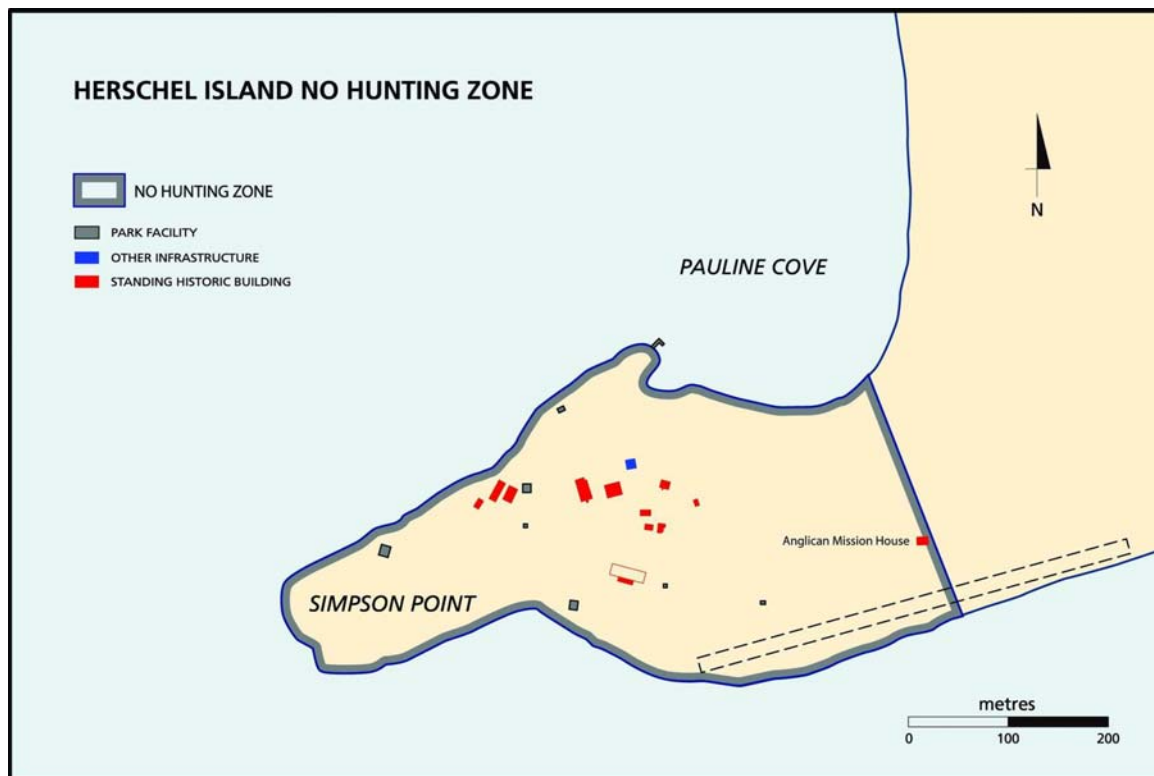
Under the IFA, the Inuvialuit are provided with exclusive harvesting rights in the Park subject to the laws of general application respecting public safety and conservation. The use of modern and traditional methods of harvesting, along with the rights to utilize all equipment reasonably needed to exercise that right is provided for. This right to use associated equipment extends to the development of new facilities in the Park following consultation with the appropriate authorities as outlined under section 12. (38).

The discharge of firearms in the settlement area poses a public safety hazard to Park staff, visitors and the Inuvialuit. A summer no-hunting zone pursuant to the *Parks and Land Certainty Act* will be implemented that will limit the harvesting rights of the Inuvialuit in the vicinity of the buildings. This no-hunting zone is only large enough to meet the immediate safety concerns while minimizing the impact on Inuvialuit harvesting opportunities.

Mackenzie House was constructed as a private residence in the 1970s for the Mackenzie family and is currently the only private residential building in the Park. Previously a one-acre parcel of land was leased to Mr. Mackenzie, who allowed the lease to lapse. Since that time, Elizabeth Kowana, previously known as Mrs. Mackenzie, continues to reside in the Park on a seasonal basis along with her family members, and a memorandum of agreement is being finalized.

The Hunters' and Travelers' Cabin was constructed by the Yukon Government for use by government staff during the park operating season and by Inuvialuit hunters and travelers during the off season. There have been a number of conflicts between other government staff, visitors and the Inuvialuit over the use of the cabin during the summer months, including the issue of privacy.

FIGURE 5 – NO HUNTING ZONE



Goal: Managing Different Types of Use

To ensure that Inuvialuit have continued access to the land to pursue traditional harvesting activities.

To ensure that visitors to the Island understand the different types of use that occur on the Island.

Action:

- a. A summer no-hunting zone around the buildings in the settlement area will be implemented as a public safety requirement pursuant to the *Parks and Land Certainty Act*. This 'no-hunting zone' adjacent to Pauline Cove would include the spit, buildings, and Park facilities, up to and including the Anglican Mission House, as indicated in Appendix 2 – No Hunting Zone. The 'no hunting zone' will apply initially from April 1 to September 15th, and will be reviewed each year to determine whether or not the closure dates are meeting the public safety needs while minimizing the impact on Inuvialuit harvesting rights. A sign will be erected indicating a “no hunting zone”.
- b. A larger no-hunting zone that encompasses the entire historic zone may be considered in an attempt to further reduce potential conflicts between people and wildlife by reducing the number of gut piles that may inadvertently attract wildlife closer to the settlement area. This proposed closure of the historic zone would be strictly voluntary and would be conducted outside of the Herschel Island - Qikiqtaruk Park Management Plan.
- c. Increase the content of interpretive programming that addresses the positive aspects of sustainable wildlife harvesting related to Inuvialuit culture and customs.
- d. In order to recognize and accommodate the family's long-term use, the Parks Branch will enter into a Memorandum of Agreement with Mrs. Kowana for the continued occupation of these parklands pursuant to the *Parks and Land Certainty Act*. The management principles and objectives from this plan, such as the management of waste to reduce the likelihood of wildlife conflicts, will apply to the occupants.
- e. In consultation with the AHTC, Yukon Government will develop a memorandum of understanding (MOU) on the ongoing use of the Hunters' and Travelers' Cabin and will be posted as a private residence. A reservation system will be considered if the MOU is not successful in managing the conflict over the Cabin's use.

4.3.2 Managing Visitor Use

While visitor access to Herschel Island - Qikiqtaruk Territorial Park will be encouraged, sensitive wildlife and wilderness resources demand that such access be controlled so that harmful ecological impacts can be avoided. The most significant cause for concern about the island's ecological integrity is the visitor levels. Proper management will protect the Park's resources while ensuring public safety.

The Yukon Territorial Government, in collaboration with other conservation agencies is responsible for making decisions about what type of activities are appropriate on Herschel Island. The following activities are considered appropriate uses of the park:

- Day hiking
- Backpacking
- Snowshoeing
- Backcountry skiing
- Picnicking
- Low-impact camping
- Birding
- Photography
- Sightseeing
- Interpretive programs

The following criteria will be used to evaluate the merits of a new use, a change in an existing use, or a significant change in the level or intensity of use in Herschel Island - Qikiqtaruk Territorial Park.

Impact on the Environment

- Seeks to assess the extent to which the proposed change could impact the ecological integrity of the region.

Effects on Culture and Heritage

- Seeks to assess the qualitative dimension and preservation of a use that contributes to the region's heritage and cultural integrity.

Quality of Experience

- Seeks to assess the extent to which the participants' and others' quality of experience could be enhanced or diminished as a result of the proposed change.

Economic Effects

- Seeks to assess the potential economic effects that the proposed change could have on the park.

Public Safety

- Seeks to assess the extent to which the proposed change could impose risks or dangers to participants or others.

Equity and Access

- Seeks to assess the extent to which all citizens could be assured a fair, reasonable, and equitable opportunity to participate in, and benefit from, the range of appropriate activities and experiences available in the park.

Education and Awareness

- Seeks to assess the extent to which the proposed change could contribute to better understanding and appreciation of the park's natural and cultural heritage and its role in the larger ecosystem.

Level of Use: Frequency, Timing, and Quantity

- Seeks to assess the extent to which the proposed change could affect the park's level of use. It would ask questions such as: How often does a proposed activity occur? When does it occur (e.g. season)? How many individuals are involved? What is the level of support required?

Goal: Providing Visitor Services

To provide visitors to Herschel Island with well-managed opportunities to enjoy high quality, wilderness experiences that foster understanding and appreciation of the park's natural and cultural resources and their long-term protection.

To promote sustainable tourism by encouraging environmental stewardship.

To manage human use.

To maintain the look and feel of Herschel Island Territorial Park.

To apply appropriate use criteria in assessing new activities or changes in the level of use associated with existing activities.

Actions:

- a. Park staff will continue to accurately record the number of visitors to the island on a daily and seasonal basis including how and when they arrive and depart, and the activities undertaken by the visitors when they are on the island.
- b. Recording current ecological conditions of high use areas to use as a baseline are required. These sites will be monitored annually for their impacts. Monitoring programs established by other management agencies will be considered and evaluated for their suitability for Herschel Island - Qikiqtaruk.
- c. Both tour operators will need to obtain a Wilderness Tourism License to accompany visitors to the Park. Special conditions limiting group size and length of stay will be considered. Copies of the trip reports from commercial operators should be sent to the Parks office in Inuvik to ensure that visitor statistics will be collected.
- d. Overnight camping permits will be used to collect visitor statistics.
- e. One tourism operator has begun taking people out to Herschel Island - Qikiqtaruk in the spring by dog team. It is not known at this time if trips such as this will continue or will increase in number in the future. Guidelines will be developed to address the concerns that have been brought forward regarding use of the Hunters' and Travelers' Cabin, the staking of dogs, and the removal of bedding and waste products at the end of their visit.

Actions specific to cruise ship visitors:

- f. The size of groups disembarking from cruise ships, and their use of the Park, will be closely monitored to determine the maximum size that can be managed without risk to the Park or visitors. A policy dealing with group size will be developed by Park staff. Tour operators will be notified of any changes prior to the operating season.
- g. Park staff will continue to board cruise ships before passengers disembark to provide an orientation to the Park and its sensitivities. Other interpretative materials will be provided to the cruise ship staff to help educate their clients about environmental ethics.

- h. Parks will prepare guidelines for park visitors and tour operators that will encourage all cruise ship operators to implement it with their staff and clients. The guidelines will follow the existing Code of Conduct that the Antarctic Cruise Ship operators have already voluntarily adopted. It will explain how visitors can minimize their impact and protect the island's resources. It will be incorporated into any future permits issued to the cruise ship operators.
- i. Parks will pursue the possibility of implementing a user pay system especially in the case of the cruise ship industry. Park users have indicated that they would be willing to pay a nominal fee for services provided.
- j. Both tour operators and cruise ship operators will need to obtain a Wilderness Tourism License to accompany visitors to the Park. Special conditions limiting group size and length of stay will be implemented. Currently there are two licensed Wilderness Tourism operators operating in this area. In order for operators to maintain their license, they are required to file annual trip reports. Copies of the trip reports from commercial operators should be sent to the Parks office in Inuvik to ensure that visitor statistics will be collected.

4.4 Oil and Gas Activity

Goal: Oil and Gas Activity

To manage and mitigate the impacts of oil and gas development so as to not compromise the purposes for which the park was established.

In recent years, there has been a resurgence of oil and gas activity in the Beaufort Sea region. One of the most notable influences on the Park's visual integrity is the use of Thetis Bay as a safe anchorage for drill platforms, support ships and caissons employed by the oil and gas industry. Industry has been encouraged to investigate the location of other safe anchorages for marine storages in order to avoid potential impacts to the area. Increased levels of off-shore ocean activity will also increase the amount of aircraft activity in the area. This can have an impact on terrestrial and marine wildlife using the area. Additional threats such as increased levels of erosion due to changes of ocean currents, and potential oil spills from either ships using the area or through the development of oil and gas wells adjacent to the Park, can all have an impact on the Park either directly or indirectly. Other developments could include the construction of a gas pipeline adjacent to Herschel Island that would service the southern markets.

Thetis Bay, located on the southeast side of Herschel Island and close to the historic community, is currently being used as temporary anchorage for a number of drilling structures formerly used in the 1980's in the Beaufort Sea. Four, matched 5000 tonnes concrete caissons owned by Gulf Canada Resources and used to create artificial islands for exploratory oil drilling are located approximately 1.5 km offshore. A Steel Drilling Cassion (SDC), also known a Mobile Offshore Drilling Unit (MODU) was stored offshore between August 2003 through to August 2005. Regulatory authorizations, which apply to the storage of the structure, included a DFO Fisheries Authorization and a federal DIAND Land Lease. Owned by Seatankers Management Company Limited, the vessel was located about three km offshore, measures over 200 metres in length and

approximately 90 metres (300 feet) in height above the waterline and weighs 83,000 tonnes. In the environmental review of this project the Departments of Environment and Energy, Mines and Resources recommended that storage not exceed two years thereby providing the company adequate time to find an alternate and compatible location.

While recognizing that these structures are located outside the immediate park boundaries, they are inconsistent with the natural, cultural and historic values of the area and represent a considerable visual impact on a generally low lying natural and undisturbed landscape.

Actions:

- a. Any spills that occur in the Herschel Island area will be dealt with through an emergency response plan that identifies the necessary protocols for park staff to follow.
- b. The YNSWCMP and the LTRMP Plan of WMAC (NS) and the provisions of the Inuvialuit Final Agreement will be taken into account in the assessment and management of potential impacts on Herschel Island-Qikiqtaruk Park by proposed oil and gas activities in the vicinity of the Park.
- c. The Yukon Government will monitor existing structures and their related activities associated with oil and gas exploration and evaluate their effects on the visual landscape and visitor experiences of the park. When appropriate, the Yukon Government will work with the companies and the appropriate permitting agencies to minimize the visual impacts to the park.
- d. The review of existing lease renewals and applications for future leases for structures visible from Herschel Island Park, will take into account the objectives of the Park and the adjacent National Park and the provision of the Inuvialuit Final Agreement.

4.5 Human/Wildlife Interactions

Conflicts between people and bears continue to be an issue and measures to minimize these conflicts will be taken. To date there have been two grizzly bears destroyed by Park staff in response to emergency safety considerations. The necessary biological samples were removed and the hides were then forwarded to the Aklavik Hunters and Trappers Committee

Goal: Human /Wildlife Interactions

To manage the human/wildlife interactions on the Island through education and preventative measures.

Actions:

- a. Additional materials will be made available to the visiting public on reducing potential conflicts between bears and people.
- b. A Herschel Island Bear Strategy/Plan, addressing both grizzly and polar bears, will be developed for the Park, based on the goals identified in the Co-management Plan for

Grizzly Bears. It will include the roles and responsibilities of the various relevant co-management agencies.

4.6 Aircraft Access

There is a portion of the beach adjacent to the Anglican Mission House that is used as an informal landing strip by tundra-tire equipped aircraft. Most of this use is in support of Park operations. Some concerns have been raised about the impacts on the surrounding environment and should be followed up with additional monitoring programs.

Uncontrolled aircraft landings within the wilderness zone have caused damage to the ground cover and underlying permafrost. Low level flights are also disruptive to wildlife using the area and need to be controlled. Measures need to be taken to ensure that the Park's habitat and wildlife are protected, consistent with the intent of the IFA. Aircraft landings on the beach adjacent to the settlement do have impacts the surrounding environment, however, these impacts are considered minimal, especially in consideration of the low number of landings each year

Goal: Aircraft Access

To manage aircraft access in a way that minimizes potential impacts on wildlife, vegetation, and the experience of park visitors.

Actions:

- a. More intensive vegetation and habitat studies of the area immediately adjacent to the beach landing area will be conducted to assist in the decision making process for managing the number of aircraft landings that are occurring in this area.
- b. Fixed-wing access to the wilderness area of the Park will not be allowed. When helicopter landings are required then a Park Permit will be issued with appropriate conditions to ensure that the parklands and wildlife are protected to the greatest extent possible. This same criteria of no or minimal impact has been applied to the Wilderness Zone since the initial management plan was completed in 1991.
- c. Park staff will ensure that the minimum flight altitude of 2000 feet recommended by the Environmental Impact Screening Committee is identified in all Park Permits issued. All charter companies operating in the Herschel region, and their pilots, must be made aware of the impacts of low-level flights over wildlife and of the requested minimum flight level. Exceptions may be authorized, through Park Permit conditions, for research. Since Transport Canada is responsible for the control of airspace, these guidelines are voluntary.
- d. Park staff will record data on the location of all aircraft landings in the Park.
- e. Government staff will ensure that the number of tundra-tired aircraft landings on the beach is kept to a minimum level wherever possible.
- f. Parks will continue to promote the use of float-equipped aircraft as the preferred method of accessing Herschel Island - Qikiqtaruk during the summer months. A docking facility will be maintained.

4.7 Park Permits

Control of activities beyond general visitor use, management plan actions, and traditional use by the Inuvialuit is required to ensure that the Park is protected in accordance with the management plan objectives. The *Parks and Land Certainty Act* states that the Minister may issue a park permit to a person who holds a valid and subsisting interest in lands included within a park to allow continued use and occupation of those lands. It also states that the Minister may issue a park permit to authorize an activity, development or use of a park that is permitted under the *Act*, its regulations, the IFA and the approved management plan.

All developments within the park, including park-related development, require a park permit. According to the *Parks and Land Certainty Act*, a development is defined as the act of constructing, erecting, altering, placing or making any change in the use of or intensity of use of any facility, structure, building, excavation, improvement or other installation on, over or under land in park, or altering the use of any land within a park. Park Permits issued under the *Parks and Land Certainty Act* will follow the new regulations.

Action:

- a. A Park Permit is required for all proposed developments and nonconforming uses such as scientific research for the Park. Park Permits will contain conditions to minimize any possible impacts to the Park's resources. Protection of the Park will remain the primary consideration for developing the appropriate conditions on the Permit.

4.8 Search and Rescue Services and Facilities

Visitors to Herschel Island - Qikiqtaruk Territorial Park must be fully informed about the remoteness of the park and about the park's limited search and rescue capabilities. Several hazards exist, including weather extremes, the risk of hypothermia, and the risk of human-wildlife conflicts. Good pre-trip planning is essential to a safe and enjoyable experience.

Goal: Search and Rescue

To provide appropriate safety messages and a response capability in keeping with the park's geography and remoteness.

Actions:

- b. Ensure that public safety is an integral component of the planning and delivery of all programs.
- c. Ensure visitors are aware of the hazards and risks inherent in visiting Herschel Island, and of their responsibility for their personal safety.
- d. To work closely with staff from Ivvavik National Park to ensure a coordinated effort to search and rescue.
- e. A formal arrangement will be made with the Coast Guard, RCMP, EMO, and Ivvavik National Park staff on the supportive role that Herschel Island Park staff will have in reporting and monitoring any search and rescue program that may occur in proximity to the Park.

5.0 Facility Management and Services

5.1 Facilities

Visitor and staff infrastructure developments will be kept to the minimum level that is considered essential to meet the immediate needs of both Park visitors and staff while providing a quality experience. Fire-pits, wind shelters, privies and a dock are the main visitor facilities that have been constructed to date. Additional boardwalks and trails may be built or identified in an attempt to protect or avoid sensitive areas. Other facility developments that utilize existing infrastructure have occurred and include staff accommodations, a welcome area, and a workshop along with several equipment storage areas.

Goal: Facilities and Services

To protect the wilderness and historical character of the park by ensuring that facilities are managed in an environmentally and historically sensitive manner.

To demonstrate sound environmental practices in the management of park facilities.

5.1.1 Wind Shelters and Fire-pits

Two traditional wind shelters constructed from driftwood logs provide visitors with a place to set up their tents where they are sheltered from the wind. Depending on tent size, there is generally room for several tents in each wind shelter. The shelters will be maintained on an as-needed basis.

There is a group fire-pit located at each of the wind shelters and group fire pits are located at strategic locations in the settlement area. Other than these fire pits, no open fires are permitted within the wilderness zone.

Actions:

- a. These facilities will be maintained and replaced on an as needed basis.

5.1.2 Docking Facilities

A seasonal dock, maintained by Park staff, is available for the parking of aircraft and boats. This dock is for the convenience of visitors and tour operators alike and is available on a first-come basis. Park staff are not responsible for providing any services at the dock such as assistance with the parking of aircraft. Parking of aircraft and boats is undertaken entirely at the owner or operator's risk.

Actions:

- a. These facilities will be maintained and replaced on an as needed basis.

5.1.3 Wash House (Sauna)

A wash house has been constructed for the use of Park staff and visitors to the island. Although the demands so far have been manageable, use of the wash house has increased the requirements of both fuel wood for heating and water for washing. If usage becomes excessive, limits will be placed on its use to conserve both water and wood supplies.

Actions:

- a. Park staff will maintain the facilities as needed.
- b. Use of the sauna by visitors will be monitored to determine whether limits need to be placed on its use in order to conserve wood and water.

5.1.4 Ice House Maintenance

Historically, icehouses consisting of a roofed hole in the permanently frozen ground and accessed by a tunnel were built for the storage of food. One of these is still used by park staff and the Inuvialuit and it provides a necessary ongoing storage function. The condition of this structure has been an issue and needs to be reviewed annually to ensure that reasonable standards of safety are attained. Users will be responsible for removing and caring for their stored food.

Action:

- a. The state and safety of the icehouses will be reviewed by Park and Heritage Resources Unit staff annually to determine work requirements for the upcoming operating season. If an icehouse structure is contaminated or structurally unsafe, it will be closed until the situation is corrected.

5.2 Water Supply and Storage

Providing sufficient potable water for Park operations and visitors continues to be a challenge. The entire season's water is collected early in the spring in the form of surface runoff or ice from one of the nearby lakes, requiring considerable storage capacity. Existing water storage facilities will be used or retrofitted wherever possible to minimize infrastructure development.

The amount of water available for Park staff and visitors continues to be limited because there are no consistent sources of potable water in the settlement area. A desalination unit was tested over a two-year period and proved to be unreliable. Instead, ice is collected early in the spring from one of the small lakes and transported to the storage containers in the settlement for use throughout the operating season. Additional sources of water have included collecting the spring runoff from the sea ice and obtaining water from ships or barges that stop by. This arrangement has worked in the past, however this practice will be reviewed and the water tested for contamination regularly.

Self-contained camping including water will continue to be promoted for park visitors. Water collected from Pauline Cove, although it is brackish, could be considered as a supplement to fresh water stocks.

Goal: Water Supply

To manage the consumption of water through sound management practices and by educating park visitors.

To ensure that potable water is safe for park visitors and staff.

Action:

- b. Potable water needs to meet the minimal standards set out in Health Canada's Guidelines for Canadian Drinking Water Quality. A water quality testing program will be set up within the Operations Plan to ensure that public and staff safety needs are met. Health Canada will test the water samples in their Inuvik facility.
- c. Additional historic water tanks may be rehabilitated with liners or new storage tanks installed, as the need for storage of water increases. Existing liners and storage tanks will be replaced or repaired as required.
- d. The collection and use of salt water will be evaluated to determine if this source could help supplement the potable water source if necessary.

5.3 Fuel Storage

Both propane and gasoline are used in park operations. These fuels must be stored in a manner that minimizes risks to the public, staff, historic resources and other features within the park while reducing the impact of infrastructure developments. Additional smaller quantities of fuel are stored for a variety of other equipment requirements and other groups including Parks Canada staff, scientists, charter companies and other user groups. All fuel must be stored safely and securely.

Goal: Fuel Storage

To ensure that the storage of fuel is done in a manner which is environmentally sound and that it is safe and secure for visitors and park staff.

Action:

- a. Separate structures are required for the storage of different fuel types. They will be located to provide the maximum safety while remaining secure and convenient for use. Several small secure fuel structures have been constructed within the settlement area to meet the needs of Park operations. These buildings were constructed within existing regulations and minimized their visual impact on the surrounding historic resources.
- b. In order to reduce the potential for fires in the settlement area, fuel will not be stored inside any of the historic buildings.

5.4 Fire Suppression and Resource Protection

Uncontrolled fires have the potential to cause irreparable damage to life, property, habitat and other resources within the Park. Although the protection of life is to be given the highest priority, protection of the Park's historical and natural resources is very important. The first level of defense against fire will be to ensure that combustible materials are stored appropriately. This will be accomplished through the proper storage of fuels and other combustible materials along with neat and tidy house cleaning techniques.

Goal: Fire Suppression

To ensure that preventative measures are in place regarding fire suppression so that human life is protected as well as the facilities on Herschel Island.

Action:

- a. All fires within the settlement area will be given the highest priority possible to ensure that any damages to the Park structures and the private residence are kept to a minimum. Wildfires will be extinguished wherever possible and within existing budget restraints.
- b. Park staff will continue to be trained in fire-fighting techniques and on-site fire-fighting equipment will be maintained in a workable state as outlined in the operations plan.

5.5 Emergency Response

An Emergency Response Procedures plan is required at the operational level that will allow Park staff to take the appropriate action in cases of an emergency. The plan needs to identify the different protocols that need to be followed such as who and when to contact, the various agencies with regards to oil and gas spills, life threatening injuries, death of an individual, missing individuals and other similar events. Along with the protocols, the role that Park staff will assume during each scenario needs to be clearly defined. This plan will form part of the Park Operations plan and will be updated on a regular basis.

Goal: Emergency Response

To ensure that any matters requiring an immediate response are reported in a timely and appropriate manner so that mitigative measures can be taken.

Action:

- a. An emergency response plan will be prepared and incorporated into the operational plan as soon as possible.

6.0 Interpretation and Educational Resource Programs

Park interpretation is an essential tool in the protection and management of Herschel Island. Education and outreach play a key role in connecting Yukoners to their territory's heritage and promoting stewardship of park resources. In order for the public to understand, appreciate, and enjoy Herschel Island, they need to understand the significance of the park's natural and cultural resources. This is the job of the park's interpretation and educational program.

An Interpretive Strategy and an Interpretation Manual were prepared for the Park in 1990. Both on- and off-site interpretation are addressed in these documents. The Interpretive Strategy outlines and describes the themes in detail that are used to interpret the natural and cultural heritage resources of the Park, as well as identifying many of the methods that could be used to deliver the themes and messages to the public. The Interpretive Manual provides more detailed information about the themes, storylines, and delivery methods and is primarily for use of Park staff or other interpreters.

In short, the themes for Herschel Island are:

- Our island in a polar sea.
- Currents of water and time.
- People from far away.
- Edge of the continent.

More detail on these themes can be found in the Herschel Island - Qikiqtaruk Interpretive Strategy.

The following audiences have been identified as primary audiences for Herschel Island - Qikiqtaruk Territorial Park's interpretive programs:

- Inuvialuit
- Day use visitors
- Multi-day visitors
- Local community members from Aklavik, Inuvik, and Kaktovik
- Yukon residents
- The Canadian public
- Air charter companies
- Researchers

First person interpretation is available at the site through the Park staff. Generally, it is the only personal contact that visitors have in the Park and staff try to meet most planes and cruise ships as they arrive. Although meant mainly to provide a "meet and greet" function in order to explain how to behave in the Park and to encourage visitors to sign the guest book, they frequently go well beyond these basics. Often the Park staff lead personal tours through the settlement and out to the bluffs overlooking the graveyards.

Limited on-site interpretation is provided, with the majority of the materials focusing on the historical and archaeological resources through static displays in one of the buildings, brochures and booklets about various aspects of the Park, or through personal interpretation by one of the Park staff. Some additional interpretation of the island's natural history component would be helpful in providing a balanced approach to the Park's natural, historical and cultural attributes.

At this time there is an interpretive sign located to the northwest of the Community House, a plaque installed by the HSMBC at the head of Pauline Cove, and a Park dedication plaque located on the Park monument. The interpretive panel was recently replaced due to the fading of the original. Its condition is monitored and it will be replaced again if required. Exterior interpretive signage is to be kept to a minimum at the site.

Consideration will be given to the installation of signage near the docking facilities to orient visitors to the site and provide them with necessary information regarding the Park and their behavior in it. The need for information of this type in the absence of the Park staff was identified in the Interpretive Strategy. Signage will also be added to direct people around the graveyards.

There is a small display located in the Community House that provides interpretation of the archaeology and palaeontology of the island. It consists of a mixture of labeled reproduction and original artifacts. There has been some discussion regarding the development of a poster type of display that would more thoroughly interpret the archaeology of the island and be mounted on the wall near the display of the artifacts. This option will be pursued in the near future. Artifacts are also on display in an open storage system in the Bone House.

Park staff using artifacts, reproductions and other suitable communications media will provide presentations at schools in Inuvik and Aklavik. Talks and slide shows at the Inuvik VRC in the summer may continue, depending on availability of Park staff and other resources. The traveling display will accompany the talks and presentations where appropriate.

Additional information and interpretive services relating to the Park are available on the Internet at www.virtualmuseum.ca, www.newparksnorth.org, www.yukonheritage.com, www.environmentyukon.gov.yk.ca

Other information services will be provided electronically as they become available including the issuance of permits or other forms. Electronic media will include both e-mail and Internet services when and where it becomes available.

Goal: Developing Park Interpretive Programs

To provide opportunities for people to learn about and understand the natural and cultural values of Herschel Island - Qikiqtaruk Territorial Park, and to encourage individuals to participate in the protection of the park.

To increase the public's appreciation, understanding, and respect for cultural heritage.

To work cooperatively with other organizations in the region to deliver messages of significance and interpretive themes to target audiences.

To provide visitors with information that helps them understand realistically what Herschel Island Territorial Park can offer and what types of services are available to them.

Actions:

- b. The 1990 Interpretive Strategy and accompanying programs will be reviewed regularly to ensure that they are meeting the needs of the visitors while protecting the Park's resources.
- c. Interpretive training for Park staff will be incorporated into the Training and Development Plan and will be provided on and off -site.
- d. The possibility of reconstructing a sod house was allowed for in the Interpretive Strategy and will be undertaken as time and resources permit. The Park staff will be providing most of the resources needed to accomplish this task. When finished, the structure will be available for interpretation of the pre-contact life of the people who lived at Herschel Island - Qikiqtaruk.
- e. A self-guided walking brochure will be developed.
- f. A new Herschel Island - Qikiqtaruk Territorial Park brochure will be developed that includes points of interest.

7.0 Implementation

The total cost of achieving the goals and objectives stated in the plan is too great to be borne by any one agency or government alone. The responsibilities for implementation will fall across different agencies and organizations. These responsibilities in turn are limited by serious financial restraints. It must be understood that this plan is not a commitment by government agencies, aboriginal organizations or non-government organizations who support it to expend funds beyond what they have available or beyond their area of jurisdiction and responsibility. Rather it is a challenge to all of those with an interest in the conservation of wildlife, habitat and traditional aboriginal use on the Yukon North Slope to work diligently within their means and to contribute their share towards this end.

A work plan has been developed which can be reviewed and updated on an annual basis by Yukon Government in consultation with the Inuvialuit Game Council, the Wildlife Management Advisory Council (North Slope) and the Aklavik Hunters and Trappers Committee. Priorities for the upcoming years will be set in line with existing and approved financial and personnel resources. Although not formally a part of the management plan, this work plan will provide an essential tool for measuring the effectiveness of the management plan while allowing for an annual review of the upcoming initiatives and the setting of priorities.

To implement the work plan effectively, it must be reviewed, and the action items prioritized, annually. Not all the action items can be implemented immediately within the existing financial and human resource constraints. The protection of Park resources will remain paramount when setting priorities. The annual revision and prioritization of the action items will be conducted outside of the management plan and will not constitute a formal review of the plan.

Action:

- a. Heritage Resources Unit and Park staff will review the work plan on an annual basis in consultation with WMAC (NS), AHTC and the IGC. Priorities for the upcoming park operating season will be set during the winter and the work plan will be revised prior to the season start-up to reflect these priorities.

APPENDIX 1: ACRONYMS

AHTC

Aklavik Hunters and Trappers
Committee

BP

Before Present

CEAA

Canadian Environmental Assessment Act

CWS

Canadian Wildlife Services

DAP

Development Assessment Process

EISC

Environmental Impact and Screening
Committee

EMAN - North

Ecological Monitoring and Assessment
Network - North

EMO

Emergency Measures Organization

HSMBC

Historic Sites and Monuments Board of
Canada

IFA

Inuvialuit Final Agreement

IGC

Inuvialuit Game Council

ISR

Inuvialuit Settlement Region

LTRMP

Yukon North Slope Long-term
Research and
Monitoring Plan

MOU

Memorandum of Understanding

NWMP

North West Mounted Police

RCMP

Royal Canadian Mounted Police

WAVRC

Western Arctic Visitor Reception
Centre

WMAC (NS)

Wildlife Management Advisory
Council (North Slope)

YESAA

Yukon Environmental Socio-
economic Assessment Act

YNSWCMP

Yukon North Slope Wildlife
Conservation and Management Plan

YTG

Yukon Territorial Government

